ORDER NO. VRD8605116

4/17/2018

Service Manual

Video Cassette Recorder

Panasonic VHS PAL Hi-Fi HQ

NV-H70EG/EV

General Description
Adjustment Procedures
Block/Schematic Diagrams
Exploded Views/Parts List

SPECIFICATIONS

Power Source:		220V AC 50/60Hz
Power Consumption:		Approx. 40 watts
Television System:		CCIR: 625 lines, 50 fields PAL colour signal
Video Recording System:		2 rotary heads, helical scanning system
	Luminance:	FM azimuth recording
	Colour singal:	converted subcarrier phase shift recording
Audio Track:		1 track (Normal), Hi-Fi 2CH
Tape Format:		Tape width 12.7mm high density tape
Tape Speed:		23.39mm/s
Record/Playback Time:		240min. with NV-E240
FF/REW Time:		Less than 5.5min. with NV-E180
Heads:	Video:	3 rotary heads 1 pair for video normal recording and playback (R-L Head) 1 pc. of head for video trick play with L' head
	Audio:	1 pair for audio Hi-Fi recording and playback (AR-AL Head)
	Audio/Control:	1 stationary head
	Erase:	1 full track erase
Input Level:	Video:	VIDEO IN connector (BNC) 1.0Vp-p, 75Ω terminated AV Connector (21 P) 1.0Vp-p, 75Ω terminated
	Audio:	LINE IN jack (Phono jack)×2 More than −10dBV, 50kΩ AV Connector (21 P) More than −10dBV, 10kΩ MIC IN jack (M3) −70dBV, Low impedance type
TV Tuners:		VHF CHE2~CHS20 (NV-H70EG) VHF CHE2~CHU10 (NV-H70EV) UHF CH21~CH69 75Ω unbalanced
Output Level:	Video:	VIDEO OUT connector (BNC) 1.0Vp-p, 75Ω terminated AV Connector (21 P) 1.0Vp-p, 75Ω terminated
	Audio:	LINE OUT jack (Phono jack)×2 −8dBV, less than 1kΩ AV Connector (21 P) −6dBV, less than 1kΩ HEADPHONE jack −30dBV, 8Ω
	RF Modulated:	UHF CH36±4 70^{+2}_{-3}dBμ (NV-H70EG) 73^{+2}_{-3}dBμ (NV-H70EV) 75Ω terminated
Weight:		8.6kg (NV-H70EG) 8.5kg (NV-H70EV)
Dimensions:		430(W)×99(H)×364.5(D)mm
Accessory Supplied:		1 pc. DIN-RF Cable 1 pc. Infra-red Remote Controller 2 pc. Audio Cable
Optional Accessories:		Video cassette tape: NV-E240 Approx. 344m, 240min. NV-E180 Approx. 258m, 180min. NV-E120 Approx. 174m, 120min. NV-E60 Approx. 88m, 60min.

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

4/17/2018

INTRODUCTION

This service manual contains technical information which will allow service technicians to understand and service the PAL VHS Hi-Fi Video Cassette Recorder Model NV-H70EG/EV.
The NV-H70EG/EV have many special features as shown in page 1-1.
These features in addition to the basic PAL VHS Format make the unit an ideal one for your culture and entertainment.

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4/17/2018

Order No. VRDSC607071

Service Manual

Supplement

Video Product

Effective from: First Production

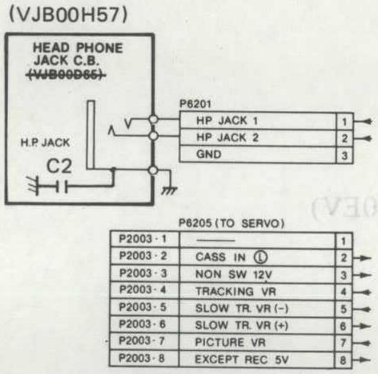
Model No. NV-H70EG, EV

Subject: Correction of Service Manual

Please use this manual together with the Service Manual for Order No. VRD8605116
Model No. NV-H70EG, EV

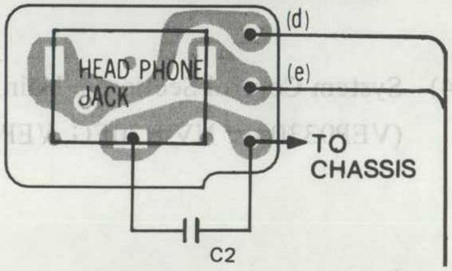
[A] Correction of Schematic Diagram & Circuit Board

(1) HEAD PHONE JACK C.B. (VJB00H57)

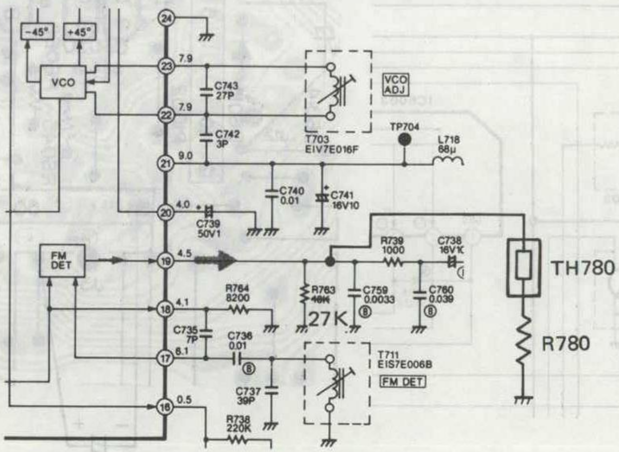

(VJB00H57)
HEAD PHONE
JACK C.B.
~~(VJB00D65)~~
H.P JACK
C2
P6201
HP JACK 1
HP JACK 2
GND
1
2
3
P6205 (TO SERVO)
P2003 · 1
P2003 · 2
P2003 · 3
P2003 · 4
P2003 · 5
P2003 · 6
P2003 · 7
P2003 · 8
CASS IN Ⓛ
NON SW 12V
TRACKING VR
SLOW TR. VR (−)
SLOW TR. VR (+)
PICTURE VR
EXCEPT REC 5V
1
2
3
4
5
6
7
8

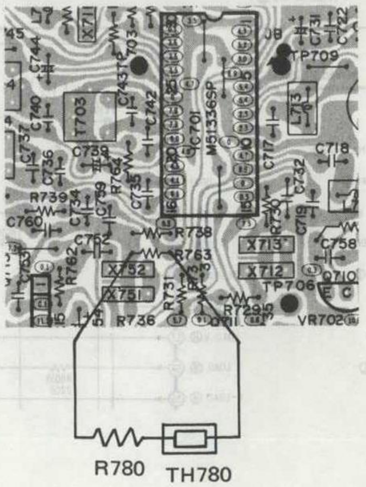
(VJB00H57)

HEAD PHONE JACK C. BOARD ~~(VJB00D65)~~


(d)
(e)
HEAD PHONE
JACK
TO
CHASSIS
C2

(2) TV DEMODULATOR PACK C.B. (VEP07325B)


−45°
+45°
VCO
24
23
22
21
20
19
18
17
16
7.9
7.9
9.0
4.0
4.5
4.1
6.1
0.5
C743
27P
C742
3P
VCO
ADJ
T703
EIV7E016F
TP704
L718
68µ
C740
0.01
C741
16V10
C739
50V1
FM
DET
R739
1000
C738
16V10
R764
8200
R763
~~46K~~
27K
C759
0.0033
C760
0.039
TH780
R780
C735
7P
C736
0.01
C737
39P
T711
EIS7E006B
FM DET
R738
220K


X711
T703
C743
C744
C740
C739
C736
C735
IC701
M51336SP
C742
C741
TP709
L713
C718
C717
C719
C732
R739
R738
C760
C759
R764
R762
R763
X713
X712
X752
X751
C758
TP706
R729
VR702
R736
R731
TP710
R780
TH780

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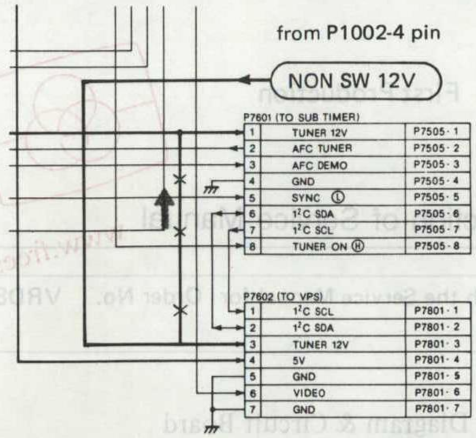
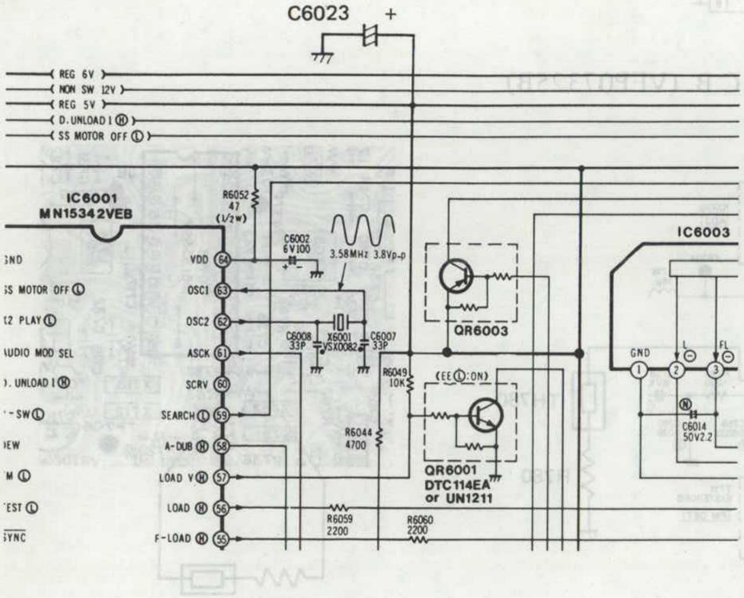
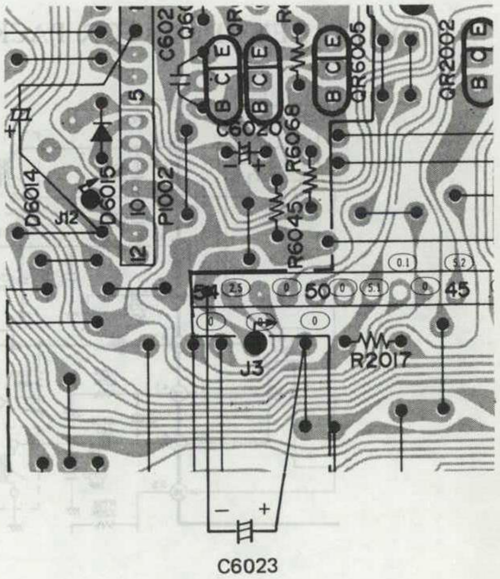
(3) RF & BAND SELECT Section in Main C. B. A.
(VEP03309E: NV-H70EG, VEP03309F: NV-H70EV)

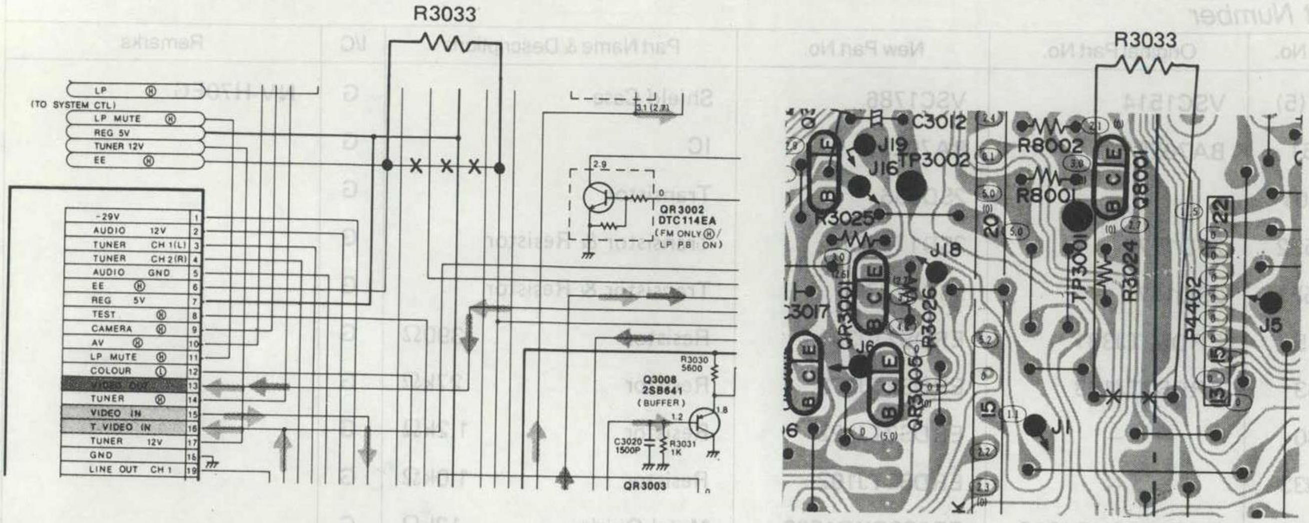

from P1002-4 pin
NON SW 12V
P7601 (TO SUB TIMER)
1 TUNER 12V P7505·1
2 AFC TUNER P7505·2
3 AFC DEMO P7505·3
4 GND P7505·4
5 SYNC Ⓛ P7505·5
6 I²C SDA P7505·6
7 I²C SCL P7505·7
8 TUNER ON Ⓗ P7505·8
P7602 (TO VPS)
1 I²C SCL P7801·1
2 I²C SDA P7801·2
3 TUNER 12V P7801·3
4 5V P7801·4
5 GND P7801·5
6 VIDEO P7801·6
7 GND P7801·7

(4) System Control Section in Main C. B. A.
(VEP03309E: NV-H70EG, VEP03309F: NV-H70EV)

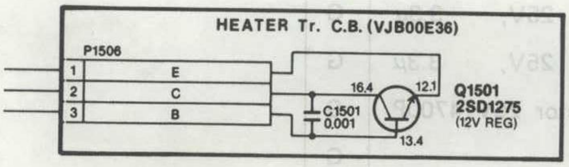

C6023
REG 6V
NON SW 12V
REG 5V
D.UNLOAD I Ⓗ
SS MOTOR OFF Ⓛ
IC6001
MN15342VEB
R6052 47 (1/2W)
C6002 6V100
3.58MHz 3.8Vp-p
VDD 64
OSC1 63
OSC2 62
ASCK 61
SCRV 60
SEARCH Ⓛ 59
A-DUB Ⓗ 58
LOAD V Ⓗ 57
LOAD Ⓗ 56
F-LOAD Ⓗ 55
C6008 33P
X6001 VSX0082
C6007 33P
R6049 10K
R6044 4700
QR6003
(EE Ⓛ:ON)
QR6001
DTC114EA
or UN1211
R6059 2200
R6060 2200
IC6003
GND
L
FL
C6014 50V2.2

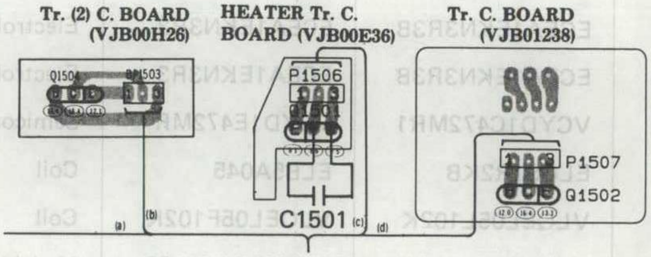

C602
Q6
QR
R
QR6006
QR2002
C6020
R6068
R6045
D6014
D6015
J12
P1002
J3
R2017
C6023

(5) LUMINANCE & CHROMINANCE Section in Main C. B. A.
(VEP03309E: NV-H70EG, VEPO03309F:NV-H70EV)


R3033
(TO SYSTEM CTL)
LP
LP MUTE
REG 5V
TUNER 12V
EE
-29V
AUDIO 12V
TUNER CH 1(L)
TUNER CH 2(R)
AUDIO GND
EE
REG 5V
TEST
CAMERA
AV
LP MUTE
COLOUR
VIDEO OUT
TUNER
VIDEO IN
T. VIDEO IN
TUNER 12V
GND
LINE OUT CH 1
QR3002
DTC114EA
(FM ONLY / LP P.B ON)
R3030 5600
Q3008 2SB641 (BUFFER)
C3020 1500P
R3031 1K
QR3003
C3012
J19
J16
TP3002
R8002
R8001
Q8001
R3025
J18
TP3001
R3024
P4402
J5
C3017
QR3001
J6
R3026
QR3005
J1
R3033

(6) HEATER Tr, C.B. (VJB00E36)


HEATER Tr. C.B. (VJB00E36)
P1506
E
C
B
C1501 0.001
16.4
12.1
13.4
Q1501 2SD1275 (12V REG)


Tr. (2) C. BOARD (VJB00H26)
HEATER Tr. C. BOARD (VJB00E36)
Tr. C. BOARD (VJB01238)
Q1504
Q1503
P1506
Q1501
C1501
P1507
Q1502
(a)
(b)
(c)
(d)

[B] Correction of Electrical Adjustment Procedures
2-5-23. VIF SWEEP ADJUSTMENT (refer to page 2-11)

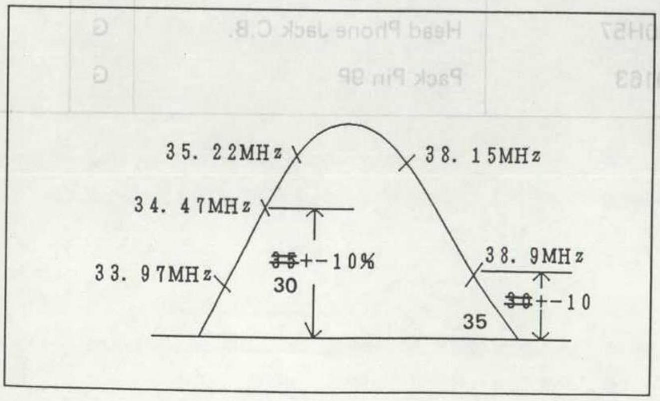


FIG.35

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Interchangeability Code See the I/C column on the following Part Number list.

	Parts	Set Production		Parts	Set Production		Parts	Set Production		Parts	Set Production		
A	Original	Early	B	Original	Early	C	Original	Early	D	Original	Early	E	Addition
	New	Late		New	Late		New	Late		New	Late	F	Deletion
												G	Other

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	I/C	Remarks
225 (5)	VSC1514	VSC1786	Shield Case	G	NV-H70EG
IC851	BA70251	BA7025L	IC	G	
Q3601	—	2SD636	Transistor	G	
QR552	2SD1777	2SD1777CI	Transistor & Resistor	G	
QR553	2SD1777	2SD1777CI	Transistor & Resistor	G	
R745	ERDS2TJ331	ERDS2TJ391	Resistor 390Ω	G	
R763	ERDS2TJ103	ERDS2TJ273	Resistor 27kΩ	G	
R780	—	ERDS2TJ122	Resistor 1.2kΩ	G	
R3033	—	ERDS2TJ102	Resistor 1.0kΩ	G	
R4318	ERD0S2CKG1202	ER0S2CKG1202	Metal Oxide 12kΩ	G	
C2	—	ECQB1H103JH	Mylar 0.01μ	G	NV-H70EG
C1501	—	ECKF1H102KB	Ceramic 50V, 1000P	G	
C6023	—	ECEA1AKS470	Electrolytic 10V, 47μ	G	
C7820	ECCFQ1H101JC	ECCF1H101JC	Ceramic 50V, 100P	G	
C4407	ECEA1EKN3R3B	ECEA1EKN3R3	Electrolytic 25V, 3.3μ	G	
C4408	ECEA1EKN3R3B	ECEA1EKN3R3	Electrolytic 25V, 3.3μ	G	
C4103	VCYD1C472MR1	VCYD1E472MR	Semiconductor 25V, 4700P	G	
L711	ELQS1R2KB	ELB5A045	Coil	G	
L7301	VLQEL05L102K	VLQEL05F102K	Coil 1mH	G	
VR701	EVN38GA00B23	EVM38GA00B23	Variable Resistor 2kΩ	G	
VR702	EVN38GA00B23	EVM38GA00B23	Variable Resistor 2kΩ	G	
TH780	—	ERTD2FHL103S	Thermistor	G	
S3601	VSS011	VSS0161	Switch	G	
—	VJB00G03	VJB00H03	Mic Jack C.B.	G	
—	VJB00D65	VJB00H57	Head Phone Jack C.B.	G	
—	VJR0263	VJR0163	Pack Pin 9P	G	

3-21. VIDEO/AUDIO HEAD AMP PACK SCHEMATIC DIAGRAM 3-13
3-22. VIDEO/AUDIO HEAD AMP PACK CIRCUIT BOARD 3-13
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3-37. TV DEMODULATOR PACK CIRCUIT BOARD 3-24
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    6. PACKING PARTS SECTION 4-6
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MECHANICAL REPLACEMENT PARTS LIST
ELECTRICAL REPLACEMENT PARTS LIST

REMARKS (NV-H70EG West Germany model only)

1. It is possible to receive, record and play back colour broadcasts from East Germany (DDR) on this video recorder.
2. When a video tape that was recorded with a colour TV broadcast from East Germany on this VTR is played back on a SECAM (France) or on a PAL VTR, the picture may be in black and white.
3. When a video tape recorded on a SECAM (France) VTR or a SECAM (France) prerecorded video tape is played back on this VTR, the picture is in black and white.

Technical Information

Subject: How to make easier servicing

We are pleased to inform you how to make easier servicing of NV-H70.

1.HOW TO MAKE EASIER SERVICING OF A PACKED CIRCUIT

In the case of checking for such packed circuit sa Luminance and Chrominance Pack,Audio Pack,TV Demodulator Pack ,Servo Pack,FM Audio Pack,Tnput Select Pack and so on, you may install then on the other side of the circuit board;the foil side.
At that time, remove the packed circui board carefully not to damage anything and reinstall on the foil side keeping the relation of each connection correctly.

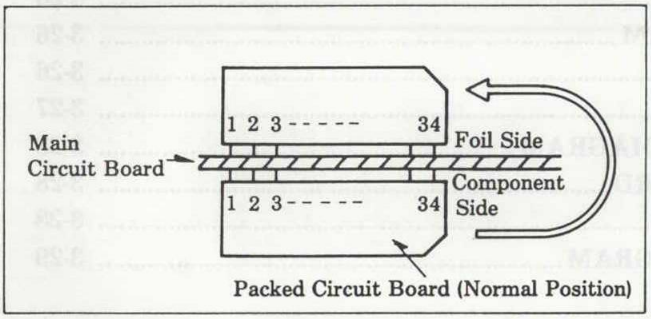


Fig.1

2.HOW TO REMOVE THE MAIN CIRCUIT BOARD

In the case of checking for the servo circuit, you can remove the main circuit board from its frame.
At that time unlock the 2 hinges and lift up paying attention not to touch any other portion.

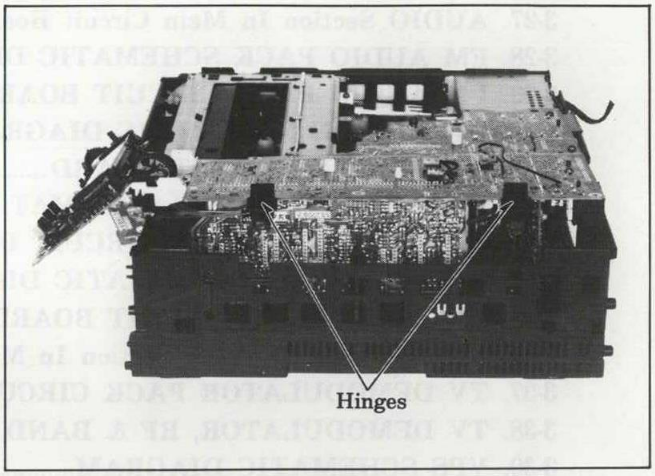


Fig. 2

3.HOW TO CHECK THE LUMINANCE & CHROMINANCE

To check the luminance & chrominance circuit without HQ pack, please connent a jumper wire as follows.

(1).Connect a jumper wire between P301-(1) and P301-(3) on the luminance & chrominance pack.

(2).Connect a jumper wire between P801-(1) and P801-(3) on the luminance & chrominance pack.

4.HOW TO CHECK THE HQ PACK BY REMOVING THE MAIN CIRCUIT WITHOUT HQ PACK

To check the HQ pack by removing the Main C.B.A., please connect a jumper wire between JK3601-(1) and P3601-(1) For supplying DC voltage (REG.12V).

4/17/2018

SECTION 1

GENERAL DESCRIPTION

1-1. FEATURES

1. Hi-Fi Stereo System

The revolutionary newly developed hi-fi stereo recording system features two rotary audio heads arranged on the video head cylinder and an FM conversion recording method. The result of this innovative system is superb sound quality with a dynamic range of 90 dB, wide frequency response from 20 Hz to 20 kHz and 0.005% wow and flutter.

2. Use as a High-Quality Audio Cassette Recorder

The excellent audio quality, outstanding tape economy, continuous 8-hour audio recording capability, Audio Rec Level Control and Audio Rec Level Meter make this VTR ideal for use as a top-quality audio cassette recorder.

3. Recording and Playback of "Simulcast" Sound

This VTR allows recording and playback of the stereo sound of TV programmes broadcast via "Simulcast" by connecting an FM tuner to the Audio Input Sockets.

4. Reception of up to 32 TV Stations

The built-in tuner in this VTR allows pre-tuning of as many as 32 TV stations. So this VTR can accommodate virtually any increase in available TV programmes in the future.

5. Recording and Playback of Stereo, Bilingual and Monaural TV Programmes

The new hi-fi stereo system in combination with the built-in multiplex tuner can process audio two-channel as well as monaural signals for both recording and playback. Even if the TV set used is of the mono type, stereo or bilingual sound of recorded programmes or sound of TV programmes, being received on the VTR tuner and played back through the TV set can be reproduced via a connected hi-fi stereo system with external speakers.

6. Multi-Function Display

Whenever an operation button is pressed, the activated function is immediately indicated on this easy-to-see display. It shows you at a glance, in what operation mode the VTR is functioning.

7. Tape Programme Search System

This VTR features the convenient Tape Programme Search function that allows you to directly locate any of up to 9 addresses (soundless portions marking the start of programmes) in forward or reverse direction during Cue or Review playback by skipping the programmes in between.

8. Auto Operation

This VTR automatically turns itself on when a video cassette is inserted even if it was turned off. When the tab of the inserted cassette is broken out, playback will start automatically. Also, even if the VTR is off when the Eject Button is pressed, it automatically turns itself on to eject the cassette tape and it turns itself off again.
When a video cassette tape with a broken out tab is inserted and the VTR is switched over to recording, OTR or timer recording, the cassette tape will be automatically ejected.
When the tape reaches its end (except during OTR and timer recording), it will automatically rewind to the beginning.

9. Super Still, Super Still Advance and Super Fine Slow Playback

Super Still, Super Still Advance and Super Fine Slow Playback are possible with superb picture quality with minimum noise and jitter.

10. Super OTR Function (One-Touch Timer Recording)

This convenient function makes it possible to easily programme the VTR for recording of TV programmes with immediate start or with start within 24 hours and with the starting time and ending time precisely set to the desired minute. When the recording ends, the VTR will automatically turn itself off.

11. 1-Month Calendar Timer

The clock/timer of the NV-H70 is programmed with the calendar up to the end of 1999, so it knows exactly what day of the week it is on any given date. Programming of as many as 8 timer recordings is possible up to one month in advance.
In addition, easy programming of the timer recordings is possible both on the VTR itself and via the remote control unit.

12. HQ(High Quality) Picture System

Video recorders carrying the HQ symbol mark feature the new VHS High Quality Picture System. This system assures complete compatibility with VTRs that use the conventional VHS system.

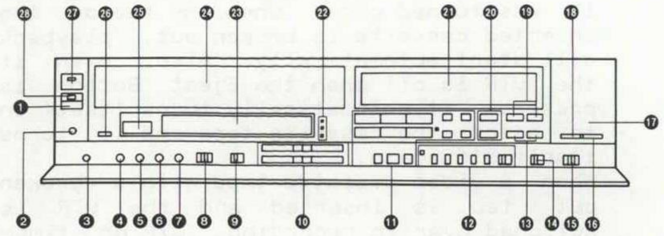
13. VPS(Video Programme System)

The Video Programme System is an extremely convenient system which assures that the TV programmes you have programmed for timer recording will be recorded exactly from beginning to end, even if the actual broadcasting time is different from the scheduled time.

4/17/2018

1-2. CONTROLS AND COMPONENTS

TOP AND FRONT



1. EJECT BUTTON

Push to this button to remove the cassette.

2. HEADPHONES SOCKET

3. MICROPHONE INPUT SOCKET

4. HEADPHONES OUTPUT LEVEL CONTROL

When using headphones, the volume level can be adjusted with the Headphones Level Control.

5. TRACKING CONTROL

NORMAL PLAYBACK:
Adjust the Tracking Control on the VTR if the image is partially obscured by bands of noise.
Hi-Fi Audio Playback:
This adjustment may be necessary when playing back a tape which was recorded on another hi-fi VTR. Set the Audio Level Meter Selector to "Hi-Fi Tracking" and slowly slide the Tracking control while observing the Audio Level Meter, for highest possible meter Indication.

6. SLOW TRACKING CONTROL

* When noise bars appear during Super Still, Super Still Advance or Super Fine Slow playback, switch over to slow playback and adjust the Slow tracking Control to reduce the noise bars.

* It may not be possible to eliminate the noise bars completely.

7. PICTURE SHARPNESS CONTROL

* The picture sharpness control enables the playback picture to be adjusted so that its outlines are made sharper or softer.

* It has no effect when recording.

8. AUDIO LEVEL METER SELECTOR

Selecting this switch, the Audio Level Meter displays the audio recording level or condition of the Hi-Fi Tracking.

Sound Track Indicators \ Audio Playback Mode	Playback of Programmes Recorded on the NV-H70 (or another VHS Hi-Fi Video Recorder)		Playback of Programmes Recorded on a Conventional VHS Stereo Video Recorder	
	Stereo Programmes	Bilingual Programmes	Stereo Programmes	Bilingual Programmes
LEFT	Left Channel	Channel 1 (Main)	——	——
STEREO	Left+Right Channels (Stereo)	CH1 from Left CH2 from Right	——	——
RIGHT	Right Channel	Channel 2 (Sub)	——	——
NORMAL	Mono	Channel 1 (Main)	Left+Right Mixed	CH1+CH2 Mixed

9. TAPE SPEED SELECTOR (AUDIO RECORDING)

For recording either or two tape speeds can be selected.
During playback the recorder selects automatically the correct speed. Select the desired tape speed with the Tape Speed Selector before recording.

* Set to the "SP" position for normal speed.

* Set to the "LP" position for slow speed. The corresponding indicator (SP or LP) lights up during recording and playback in the Multi-Function Display.
When the VTR is in the LP mode, only the Hi-Fi audio track can be recorded or played back.

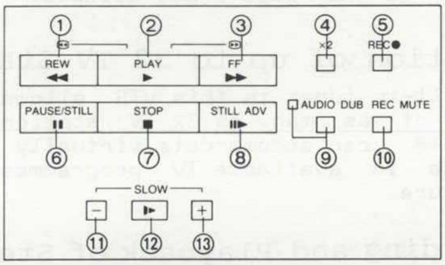
* The usual video functions (recording or playback of the picture) are inoperable in the LP mode.

10. AUDIO REC LEVEL CONTROLS

* The recording level for the right and left channel can be adjusted individual. (It is recommended to adjust so that peaks in the audio level reach about +3 dB.)

* Adjustment of the audio recording level is only possible for the sound which is to be recorded on the hi-fi audio tracks. The sound to be recorded on the "normal" audio track cannot be adjusted with the Audio Rec Level controls.

11. TAPE RUNNING CONTROLS



1. Rewind /Review Button
2. Play Button
3. Fast Forward /Cue Button
4. Double Speed Playback Button
5. Record Button
6. Pause/Still Button
7. Stop Button
8. Still Advance Button
9. Audio Dubbing Button/Indicato
10. Audio Rec Mute Button
11. Slow (-) Button
12. Slow Button
13. Slow (+) Button

12. TIMER CONTROLS

13. OTR OFF BUTTONS

Push this button to set the digital clock or OTR ending time.

14. MPX FILTER SWITCH

If the sound is impaired by high frequency distortion when recording from an FM tuner, Set the MPX Filter switch to "On". If there is no distortion when recording from an FM tuner, and for all other recordings, set this switch to "Off". This switch has no influence on the playback.

15.INPUT SIGNAL SELECTOR

For selecting the input signal to be recorded.

16.MEMORY / SEARCH BUTTON

When this button is pressed once, the Memory Indicator "M" will light up, and when it is pressed one more time, the Search Indicator "S" will appear instead. When it is pressed a third time the Search Indicator "S" will disappear.

17.TUNER SET-UP CONTROLS

Used to tune to any broadcast channel in your area.

18.RESET / INDEX BUTTON

Press this button to select the desired address (soundless portion at the start of the desired audio on video programme). The number of the selected address is shown on the Multo-Function Display.

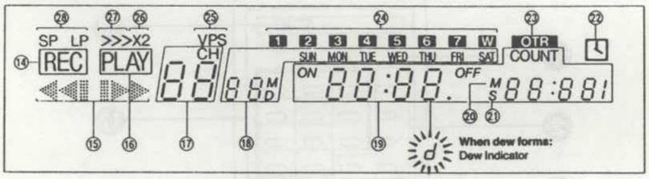
19.TIMER / OTR ON BUTTON

Push this button to set the digital clock or OTR Starting time.

20.CHANNEL SELECTION UP AND DOWN BUTTONS

Push the desired channel selector buttons to select the channel you wish to view record.

21.MULTI-FUNCTION DISPLAY

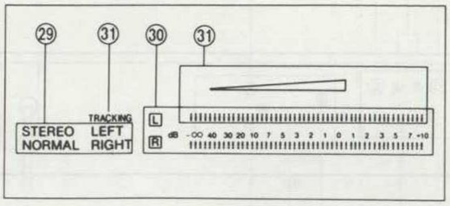


14.Recording Indicator
15.Tape Running Display
16.Playback Indicator
17.Channel Display
18.Month/Day Display
19.Clock/Tape Counter Display
20.Memory Indicator
21.Search Indicator
22.Timer Recording Indicator
23.OTR Indicator
24.Timer Recording Number
25.VPS Indicator
26.Double Speed Indicator
27.Slow Speed Indicators
28.Tape Speed Indicator

22.AUDIO RECORDING MODE INDICATORS

When setting the Input Signal Selector buttons to select the channel you wish to view record.

23.AUDIO LEVEL /HI-FI TRACKING METER & AUDIO PLAYBACK MODE INDICATORS



28.Audio Playback Mode Indicators
29.Audio Rec Level Meter
30.Hi-Fi Tracking Meter

24.CASSETTE COMPARTMENT

25.INFRA-RED REMOTE CONTROL RECEIVER

Receives the signal from the Infra-red Remote Control.

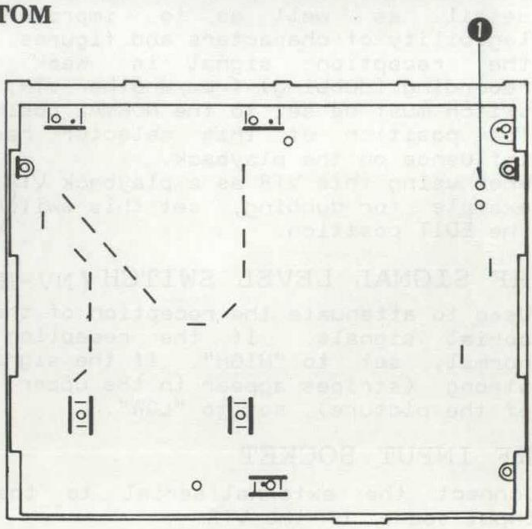
26.AUDIO PLAYBACK MODE SELECTOR

Press the Audio Playback Mode Selector until the Sound Track Indicator of the desired sound mode lights up.
If a video cassette recorded on a conventional VHS stereo video recorder is played back on this VTR, the sound reproduction of a stereo programme will be in mono. In case of a recorded bilingual programme, both language versions are reproduced mixed together (and are therefore not intelligible).

27.VTR ON / OFF SWITCH / INDICATOR

28.CASSETTE-IN INDICATOR

BOTTOM



1. V-Lock

If a vertical jitter appears on the TV monitor in Still, Still-Advance or Slow mode, adjust the V-Lock control at the best position so that the picture can be stabilized.
Once you adjust this control, no more adjustment is required unless you change the connected TV receiver.

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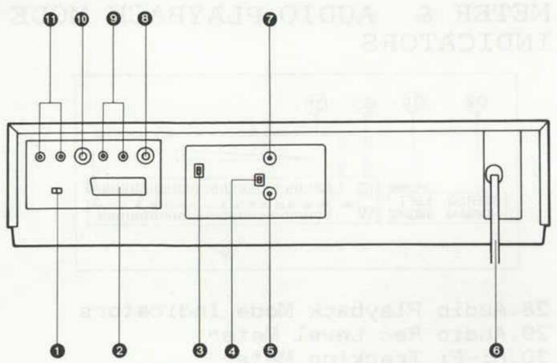
REAR



1. COLOUR MODE /TEST SIGNAL SWITCH

In the TEST position, a black-and white test pattern is generated, which allows easy tuning of your TV set to the video playback channel of the VTR. To record colour TV broadcasts or to play back a colour tape, set the switch to "COLOUR" position.

2. EURO AV SOCKET

Connect the EURO AV Socket on the VTR to the AV Socket on the TV set.
The EURO AV Socket allows recording and playback of picture and sound. This connection can be used for TV sets which are also equipped with an AV Socket. Via this socket, TV programmes can be recorded, too. Such a connection improves the picture and sound quality during playback.

3. PICTURE DETAIL ENHANCER / EDIT SELECTOR

For recording of TV programmes, this switch can be set to the HIGH position to enhance overall picture crispness and detail as well as to improve the legibility of characters and figures. When the reception signal is weak when recording (dubbing) from another VTR, this switch must be set to the NORMAL position. The position of this selector has no influence on the playback.
When using this VTR as a playback VTR, for example for dubbing, set this switch to the EDIT position.

4. RF SIGNAL LEVEL SWITCH (NV-H70EV)

Used to attenuate the reception of the UHF aerial signals. If the reception is normal, set to "HIGH". If the signal is strong (stripes appear in the upper part of the picture), set to "LOW".

5. RF INPUT SOCKET

Connect the external aerial to the RF Input socket on the VTR.

6. AC MAINS LEAD

Connect the AC Mains Lead of the VTR to the mains outlet.

7. RF OUTPUT SOCKET

For connection to the antenna terminal (COAXIAL type) of TV with the DIN-DIN coaxial cable supplied with the unit.

8. VIDEO OUTPUT SOCKET

For connection to a TV monitor or another Video Cassette Recorder. Not used with an ordinary TV.

9. AUDIO OUTPUT SOCKET

For connecting an audio cable of a TV monitor, a component audio system, or another VTR.

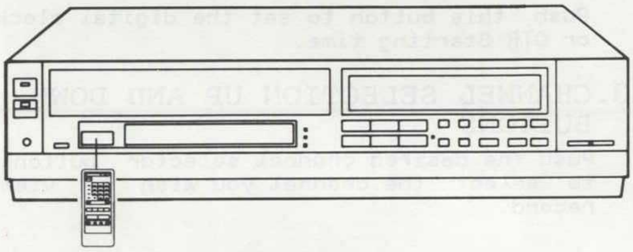
10. VIDEO INPUT SOCKET

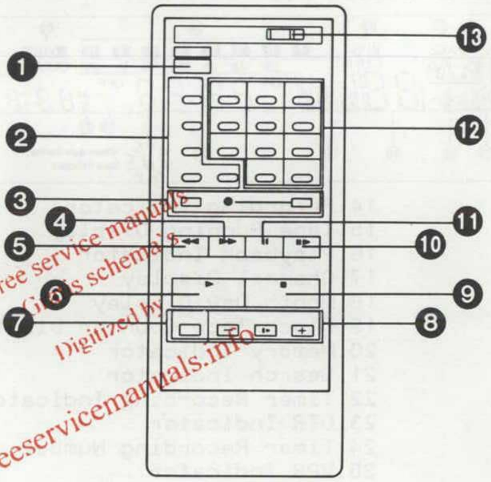
For connecting the video cable of a video camera or an output video signal of another VTR.

11. AUDIO INPUT SOCKET

For connecting an audio cable of a video camera, a component audio system or another VTR.

INFRA-RED REMOTE CONTROLLER





1. VTR On/Off Switch

For turning the VTR on and off.

2. Timer Recording Buttons

These buttons are used for programming timer recordings.

3. Record Buttons (●)

To start recording, press the both buttons simultaneously.

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4. Fast Forward ▶▶/Cue ⏩ Button

When this button is kept pressed during playback, the VTR changes over to the Cue playback mode.

5. Rewind ◀◀/Review ⏪ Button

When this button is kept pressed during playback, the VTR changes over to the Review playback mode.

6. Play Button (▶)

7. Double Speed Playback Button (×2)

8. Slow Button (I▶)

Press the Slow Button for slow-motion playback at 1/10 of normal speed. The slow playback speed can be varied between 1/30 and 1/5 of normal speed by using the "+" and "-" Buttons.
Note:
If the VTR is left in the slow playback mode for more than 10 minutes, the VTR will automatically switch over to the stop mode, to protect the tape and the video heads.
Adjust the Slow Tracking Control if necessary.

9. Stop Button (■)

10. Still Advance Button (II▶)

11. Pause/Still Button (II)

12. Programme Position (Channel) Selector Buttons

select channel	press button	
1–9	1 – 9	respective channel
10	10/0	
20	-/-- → 2 → 10/0	
11–32 for example 32	-/-- → 3 → 2	

If more than 5 seconds pass between the first, second and third push, the channel will not be changed normally.

13. Remote Controller Switch

Set this switch to "On", to use the Remote Controller.

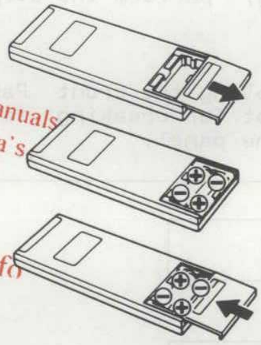
Power Source for the Infra-red Remote Controller

* The Infra-red Remote Controller is powered by two IEC "R03" size batteries. The life of the batteries is about one year, however, it depends on the frequency of use. Inspect and if necessary, replace the batteries once a year.

CAUTION FOR BATTERY REPLACEMENT

* Load the new batteries with their polarities (+ and -) aligned correctly.
* Do not apply heat to batteries, or internal short-circuit may occur.
* If you do not intend to use the Remote Controller for a long period of time, remove the batteries and store them in a cool and dry place.
* Remove spent batteries immediately and dispose of them.
* Do not use an old and a new batteries together. (Also never use an alkaline battery with a manganese battery.)

Load the batteries as follows:



1 Remove the battery compartment lid.
2 Place two batteries in the battery compartment as indicated inside the battery compartment.
3 Replace the lid.

Note:
* The infra-red beam should be transmitted directly at the Infra-red Remote Control Receiver on the front of the VTR.
* Direct sunlight may interfere with the beam.
* The lightsensing angle of the Infra-red Remote Control Receiver window in the VTR is about 40degrees.
* The unit should be used within a range of about 7 meters from the front of the VTR.

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SECTION 2
ADJUSTMENT PROCEDURES

2-1. MECHANICAL ADJUSTMENT PROCEDURES

The Mechanical chassis of this model NV-H70 series are similar to the D-1 Mechanical chassis.
Therefore, please refor to the service Manual D-1 chassis (order No.VRD8310490).

2-2. DISASSEMBLY METHOD

2-2-1. DISASSEMBLY FLOWCHART

This flowchart indicates disassembly items of the cabinet parts and P.C. Boards in order to find the items necessary for servicing.
When reassembling, perform the steps in the reverse order.

Notes:
When reassembling the Front Panel, work with care not for breaking the locking portions of the panel.

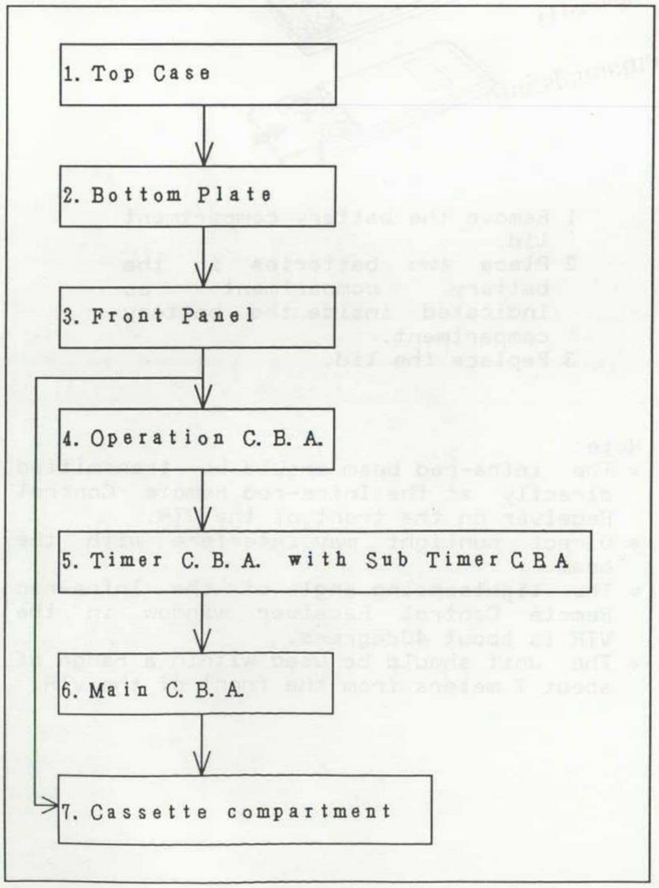

FIG.1

2-2-2. DETAIL OF DISASSEMBLY METHOD

1. REMOVAL OF THE TOP CASE

Unscrew 4 screws (A). Then carefully lif the rear of the case to remove.

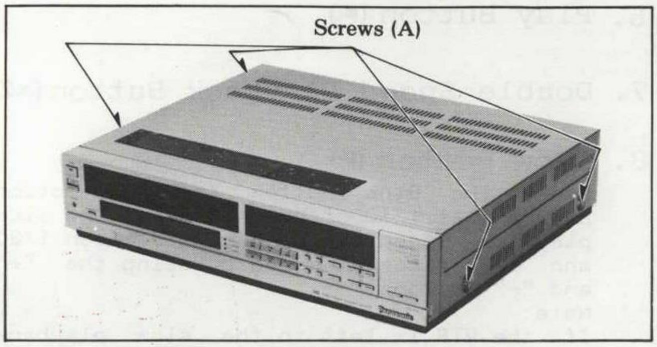

FIG.2

2. Removal of Bottom Plate

Place the deck upside so the bottom side face upward.
Then unscrew 8 screws (B) to remove.

Note:
Place the cushion under the deck for not being damaged the top portion of the deck.

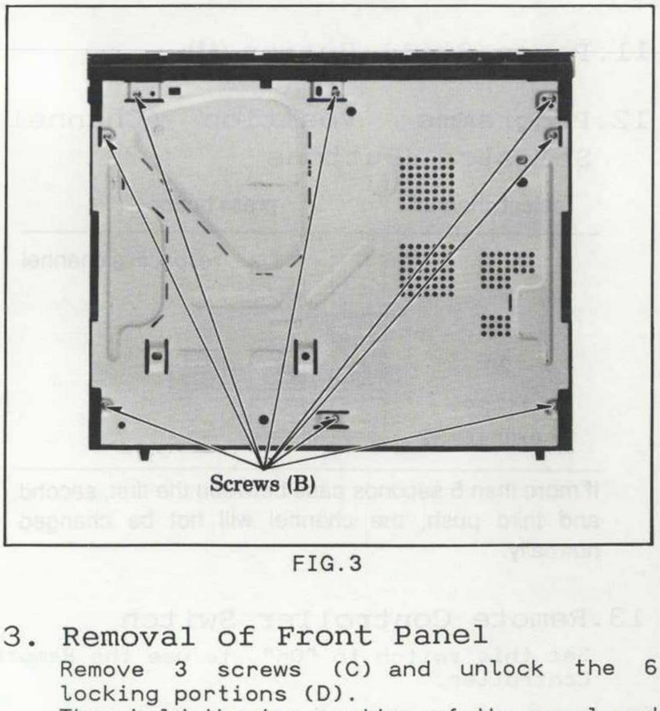

FIG.3

3. Removal of Front Panel

Remove 3 screws (C) and unlock the 6 locking portions (D).
Then hold the top portion of the panel and turn it toward the front side of the deck to remove, and disconnect the headphone jack connector P6201 and the Mic jack connector P6203 from the Operation C.B.A.

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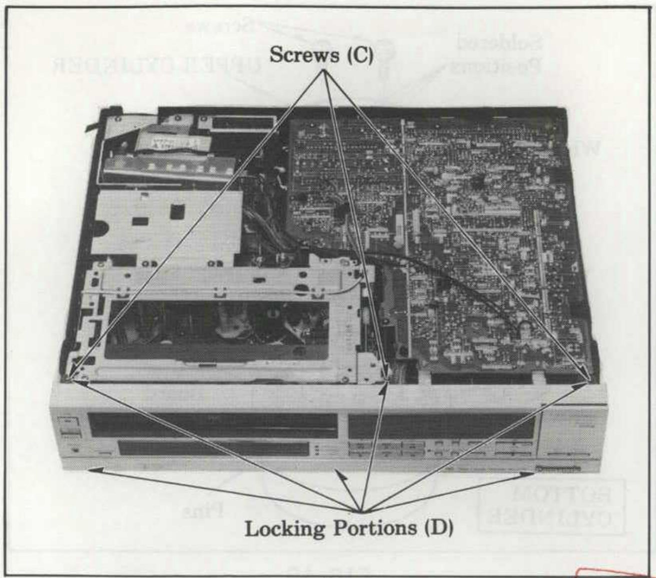
Screws (C)
Locking Portions (D)

FIG.4

4. Removal of Operation C.B.A.

Remove 3 screws (E) and 3 locking portions (F) to remove the Operation C.B.A.

5. Removal of Timer C.B.A.

Remove 3 screws (G) and unlock 2 locking portions (H) to remove the Timer C.B.A. whith sub Timer C.B.A.

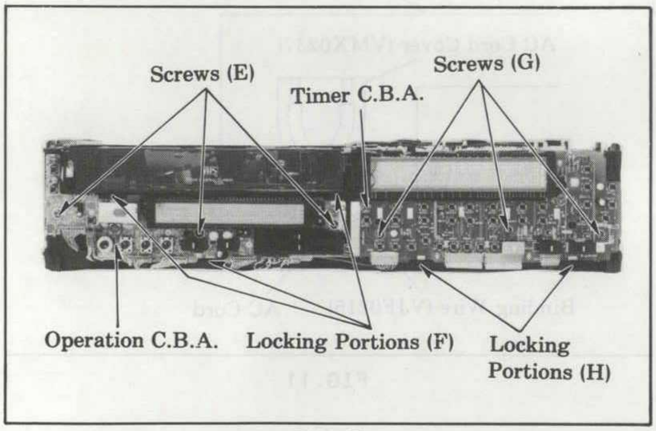
Screws (E)
Timer C.B.A.
Screws (G)
Operation C.B.A.
Locking Portions (F)
Locking Portions (H)

FIG.5

6. Removal of Main C.B.A.

Remove 7 screws (I) and Remove the clamper (J).
Then open the Main C.B.A. with Timer & CH Select C.B.A. and Operation C.B.A.

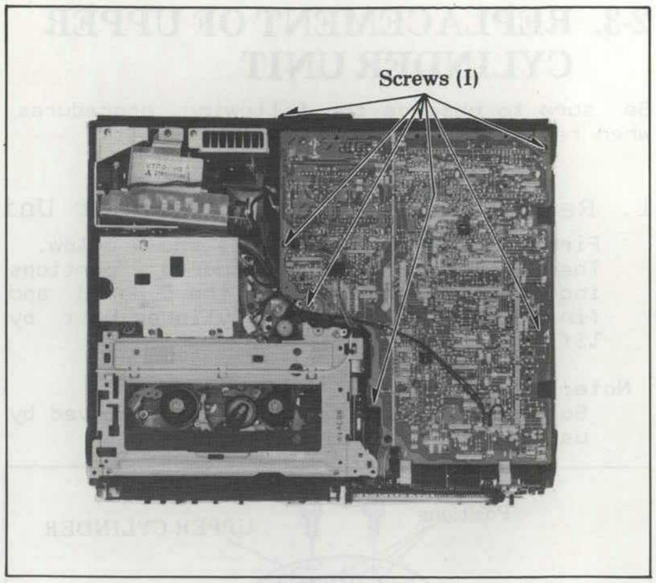

FIG.6

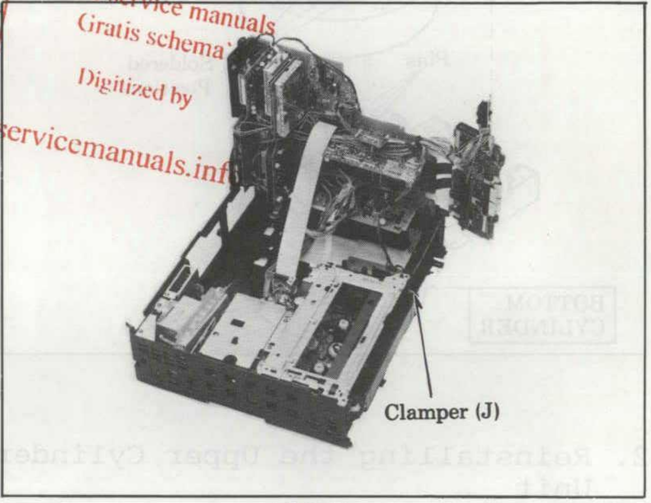

FIG.7

7. Removal of Cassette Compartment

Remove 2 screws (K) and disconnect the connector P1510 from the Front Loading C.B. Then carefully pull out the Cassette Compartment after removing shileld plate.

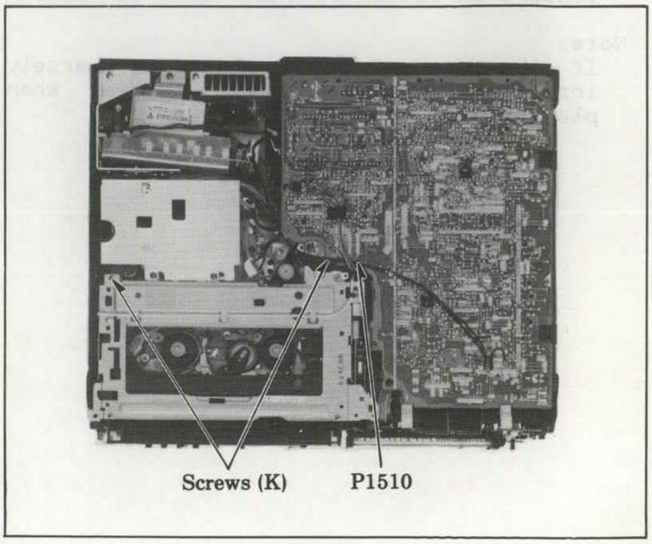
Screws (K)
P1510

FIG.8

4/17/2018

2-3. REPLACEMENT OF UPPER CYLINDER UNIT

Be sure to observe the following procedures when replacing the Upper Cylinder Unit.

1. Removing the Upper Cylinder Unit

First, remove two screws as shown below. Then, unsolder 12 soldered portions indicated by arrows, on the C.Board and finally remove the Upper Cylinder Unit by lifting it upwards.

Note:
Soldered portion can be easily removed by using solder sucking wire, etc.

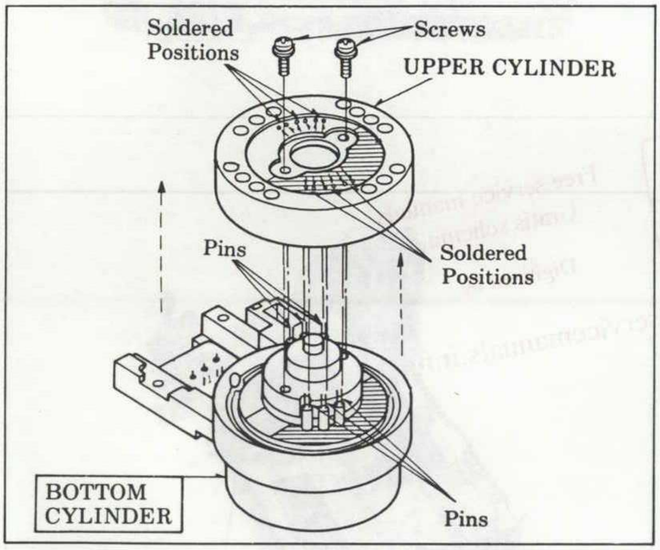
Soldered Positions
Screws
UPPER CYLINDER
Pins
Soldered Positions
BOTTOM CYLINDER
Pins

FIG.9

2. Reinstalling the Upper Cylinder Unit

The Upper Cylinder Unit can be reinstalled by reversing the removal procedure. However, when reinstallying, it be extremely careful so that both the white and green portions of the C.Board on the Upper Cylinder Unit will correctly match the white and green portions of the C.Board on bottom Cylinder as shown below.

Note:
If the Upper Cylinder unit is reversely installed, no colour will appear when playing back a pre-recorded tape.

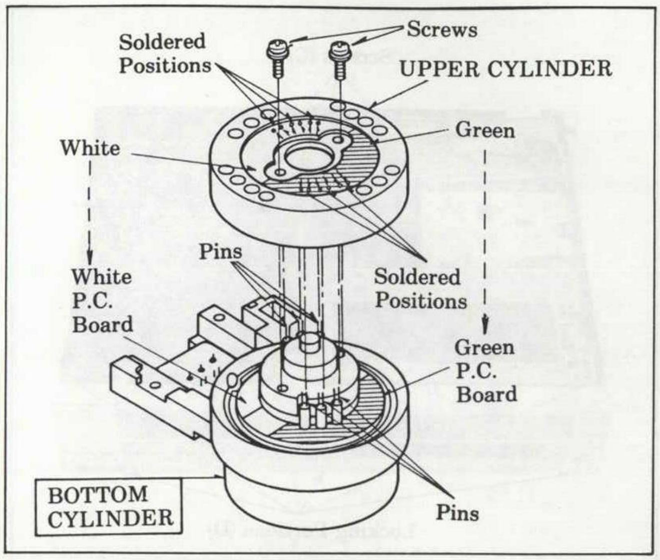
Soldered Positions
Screws
UPPER CYLINDER
Green
White
Pins
White P.C. Board
Soldered Positions
Green P.C. Board
BOTTOM CYLINDER
Pins

FIG.10

2-4. REPLACEMENT OF AC CORD

Note:
When AC cord is replaced, plase change Contraction tube without fial for safety operation.

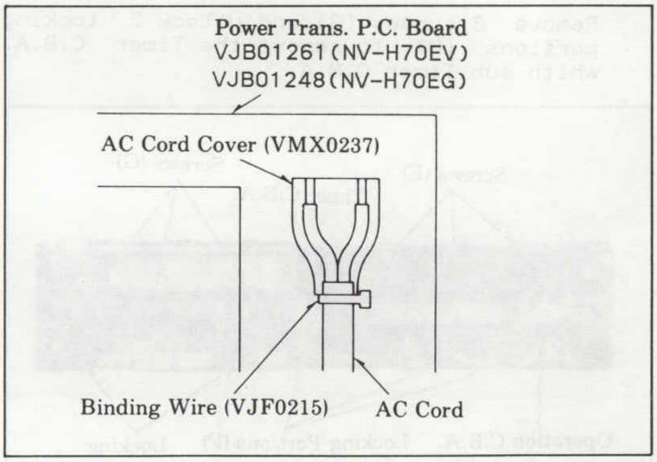
Power Trans. P.C. Board
VJB01261(NV-H70EV)
VJB01248(NV-H70EG)
AC Cord Cover (VMX0237)
Binding Wire (VJF0215)
AC Cord

FIG.11

2-5. ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete electrical adjustment procedures which may be required for electronic circuits of VHS Video Cassette Recorders NV-H70

2-5-1. TEST EQUIPMENTS

To perform the electrical adjustments completely, following equipments are required.

1. VTVM (Vacuum Tube Volt Meter) or DVM (Digital Volt Meter)
   Voltage Range: 0.001~50V
2. Dual-Trace Oscilloscope
   Voltage Range: 0.005~50V/div.
   Frequency Range:DC~30MHz
   Probes: 10:1 or 1:1
3. Frequency Counter
   Frequency Range:0~10MHz
4. Signal Generator (Sinewave)
   Frequency Range:0~10MHz
5. Video Sweep Generator
   Frequency Range:0~10MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. VHS Alignment Tape (VFJ8125H3F)
9. Pattern Generator

2-5-2. HOW TO READ THE ADJUSTMENT PROCEDURES

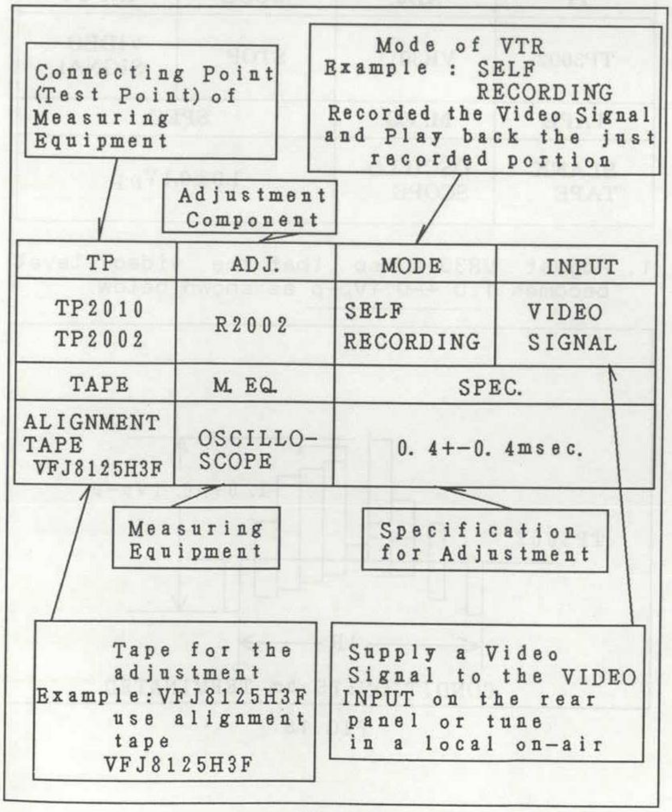
Connecting Point (Test Point) of Measuring Equipment
Mode of VTR
Example : SELF RECORDING
Recorded the Video Signal and Play back the just recorded portion
Adjustment Component
TP
ADJ.
MODE
INPUT
TP2010
TP2002
R2002
SELF RECORDING
VIDEO SIGNAL
TAPE
M. EQ.
SPEC.
ALIGNMENT TAPE VFJ8125H3F
OSCILLO-SCOPE
0. 4+-0. 4msec.
Measuring Equipment
Specification for Adjustment
Tape for the adjustment
Example:VFJ8125H3F use alignment tape VFJ8125H3F
Supply a Video Signal to the VIDEO INPUT on the rear panel or tune in a local on-air

FIG.12

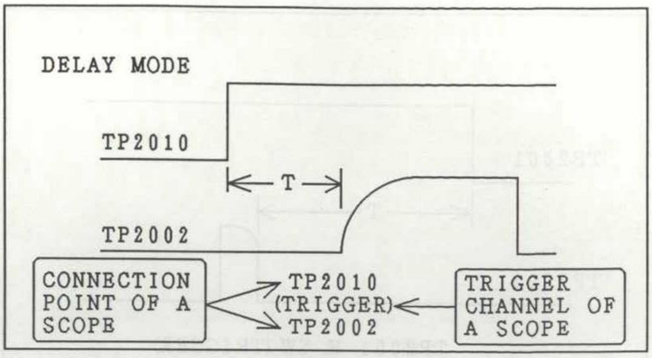
DELAY MODE
TP2010
T
TP2002
CONNECTION POINT OF A SCOPE
TP2010
(TRIGGER)
TP2002
TRIGGER CHANNEL OF A SCOPE

FIG.13

SERVO SECTION

2-5-3. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 TP3002	VR2001	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
ALIGNMENT TAPE VFJ8125H3F	OSCILLO-SCOPE	6.5±0.5H	

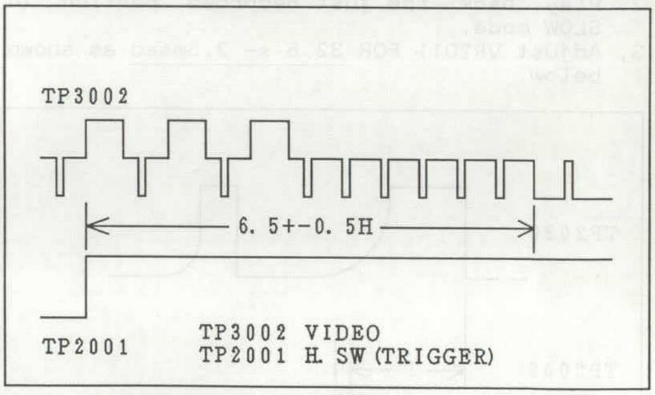
TP3002
6. 5+-0. 5H
TP2001
TP3002 VIDEO
TP2001 H. SW (TRIGGER)

FIG.14

2-5-4. TRACKING FIX ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2001 TP2002	VR2002	SELF RECORDING	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	T=0.4±0.4msec.	

1. TRACKING VR is center fix position
2. Play back the just recorded portion.
3. Adjust VR2002 for 0.4 +- 0.4msec as Shown below.
4. Confirm that the period of "T" becomes 2.6 +- 0.4 msec in X2 PLAY mode and if it is not specification, this adjustment should be repeated again

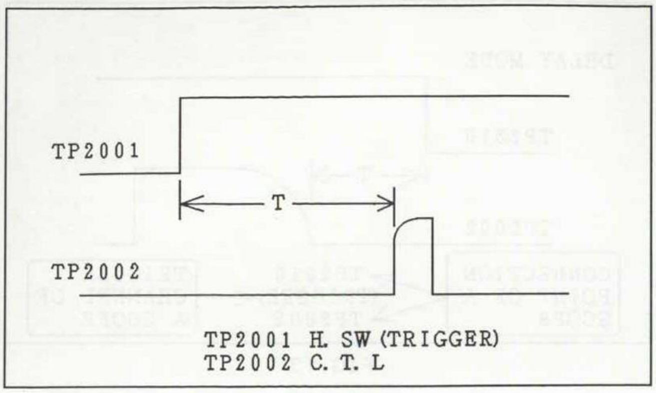
TP2001
T
TP2002
TP2001 H. SW (TRIGGER)
TP2002 C. T. L

FIG.15

2-5-5. SLOW TRACKING ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2020 TP2002	VR2011	SLOW	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	T=32.5±2.5msec.	

1. SLOW TRACKING VR is center fix position.
2. Play back the just recorded portion in SLOW mode.
3. Adjust VR2011 FOR 32.5 +- 2.5msec as shown below.

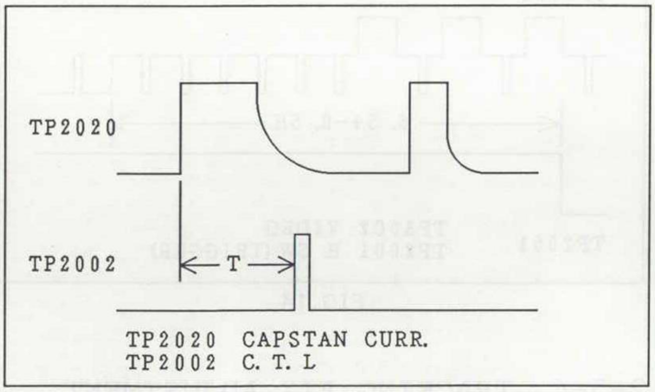
TP2020
TP2002
T
TP2020 CAPSTAN CURR.
TP2002 C. T. L

FIG.16

2-5-6. ARTIFICIAL V-SYNC ADJUSTMENT

TP	ADJ.	MODE	INPUT
	VR2003	SELF RECORDING	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	TV MONITOR		

1. Play back the just recorded portion in still mode.
2. Adjust VR2003 on the Servo pack (VJB02225) so that the V-dancing does not appear on the TV MONITOR as shown below.
3. Confirm that the V-dancing does not appear in cue and Review modes. If the V-dancing is appeared on the TV MONITOR, this adjustment should be repeated again.

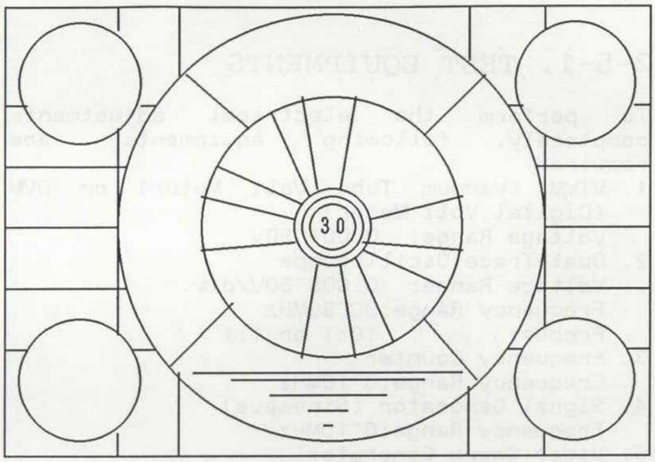

FIG.17

LUMINANCE, CHROMINANCE & HEAD AMP SECTION

2-5-7. E-E LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002	VR3011	STOP	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	1.0±0.1Vp-p	

1. Adjust VR3011 so that the video level becomes 1.0 +-0.1Vp-p as shown below.

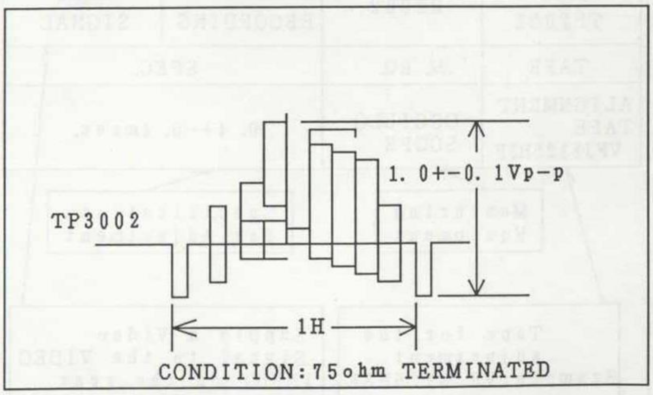
TP3002
1. 0+-0. 1Vp-p
1H
CONDITION: 75ohm TERMINATED

FIG.18

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2-5-8. CHROMINANCE & LUMINANCE RECORDING CURRENT ADJUSTMENT

* CHROMINANCE RECORDING CURRENT ADJ.

TP	ADJ.	MODE	INPUT
TP503 (HOT) TP504 (GND)	VR502	RECORDING	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	28±3mVp-p	

1. Connect the OSCILLOSCOPE to TP503 (HOT) and TP504 (GND).
2. Before chrominance recording current adjustment, Luminance recording current must be closed to observe the chrominance signal.
3. Adjust VR502 for 28 +- 3mVp-p as shown below.

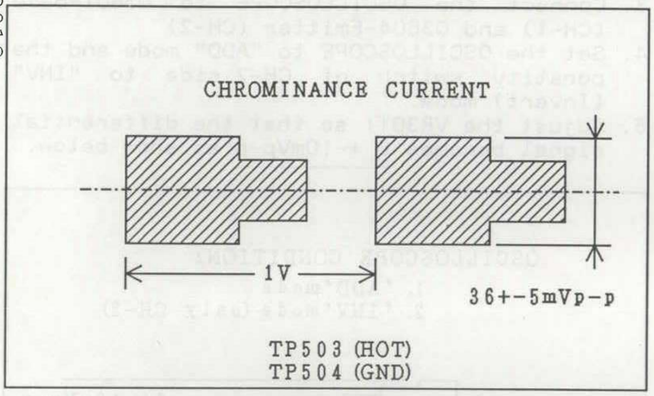
CHROMINANCE CURRENT
1V
36+-5mVp-p
TP503 (HOT)
TP504 (GND)

FIG.19

* LUMINANCE RECORDING CURRENT ADJ.

TP	ADJ.	MODE	INPUT
TP503 (HOT) TP504 (GND)	VR501	RECORDING	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	120±5mVp-p	

4. After chrominance recording current adjustment, adjust VR501 for 120 +- 5mVp-p as shown below.

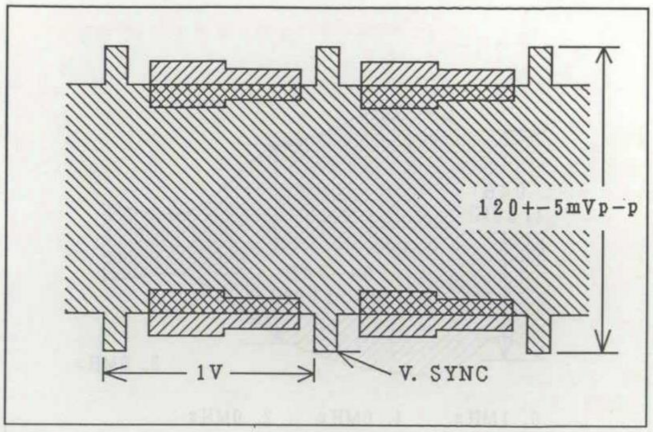
120+-5mVp-p
1V
V. SYNC

FIG.20

2-5-9.HEAD AMP FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002	VR3051	SELF RECORDING	VIDEO SWEEP
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	VIDEO SWEEP/ OSCILLO-SCOPE		

1. Set the output of VIDEO SWEEP as shown below.

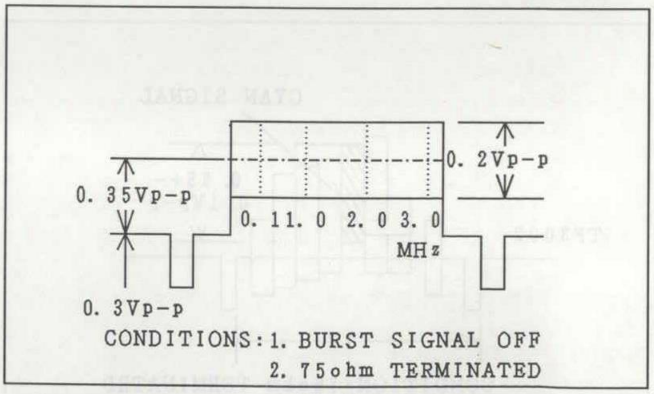
0. 2Vp-p
0. 35Vp-p
0. 1 1. 0 2. 0 3. 0
MHz
0. 3Vp-p
CONDITIONS: 1. BURST SIGNAL OFF
2. 75ohm TERMINATED

FIG.21

2. PICTURE VR is center fix position.
3. Set the "DETAIL SW" (Rear Side) to the NORMAL position.
4. Play back the just recorded portion.
5. Adjust VR3051 so that the waveform becomes as shown below.

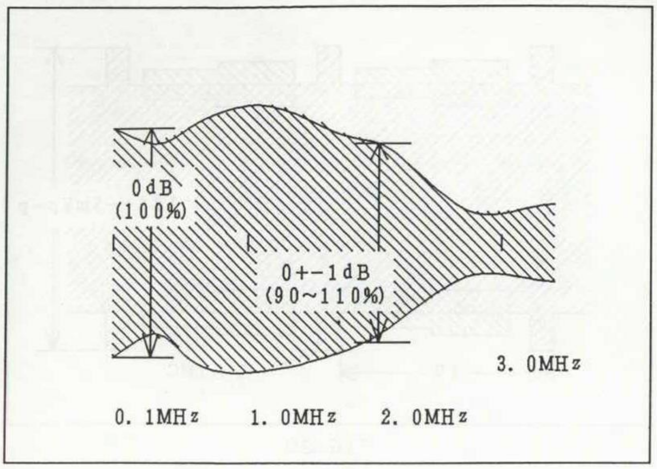

FIG.22

2-5-10.PLAYBACK CHROMA CYAN LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002	VR801	SELF RECORDING	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	0.55±0.1Vp-p	

1. Play back the just recorded portion.
2. Adjust VR801 for 0.55 +- 0.1 Vp-p as shown below.

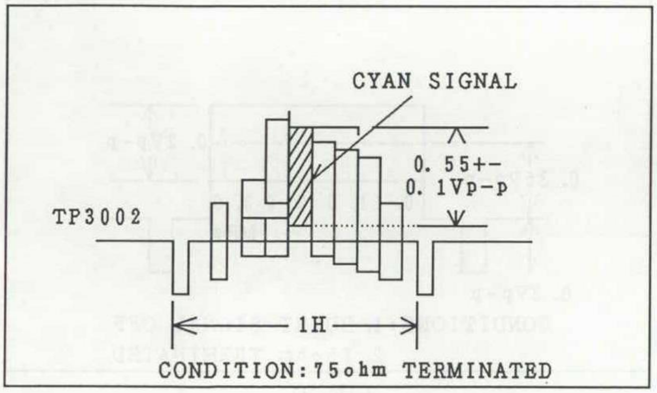
CYAN SIGNAL
0.55+-
0.1Vp-p
TP3002
1H
CONDITION:75ohm TERMINATED

FIG.23

2-5-11.HQ AMP GAIN ADJUSTMENT.

TP	ADJ.	MODE	INPUT
Q3601-(B) (CH-1) Q3604-(E) (CH-2)	VR3011	STOP	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	0±10mVp-p	

1. Set the "DETAIL SW (Rear Side) to the NORMAL position.
2. Supply the output of VIDEO SIGNAL GENERATOR to P3602-1 through the DC bias circuit as shown below.

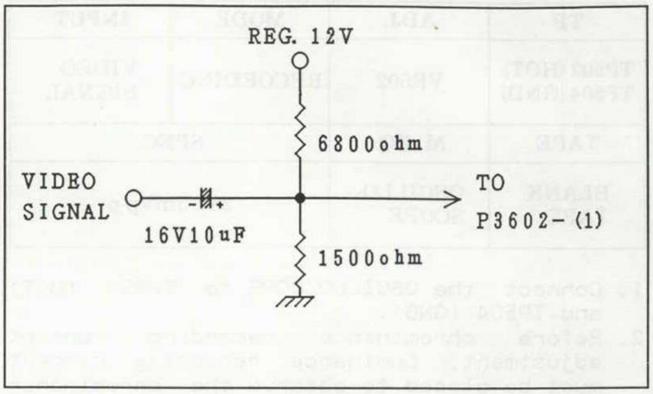
REG.12V
6800ohm
VIDEO
SIGNAL
16V10uF
1500ohm
TO
P3602-(1)

FIG.24

3. Connect the OSCILLOSCOPE to Q3601-Base (CH-1) and Q3604-Emitter (CH-2)
4. Set the OSCILLOSCOPE to "ADD" mode and the porality switch of CH-2 side to "INV" (Invert) mode.
5. Adjust the VR3011 so that the differential signal becomes 0 +-10mVp-p as show below.

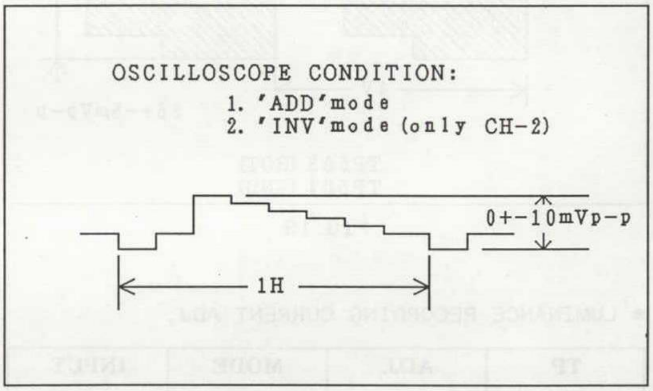
OSCILLOSCOPE CONDITION:
1. 'ADD' mode
2. 'INV' mode (only CH-2)
0+-10mVp-p
1H

FIG.25

2-5-12.CHROMA RECURSIVE ADJUSTMENT.

TP	ADJ.	MODE	INPUT
TP8019	VR8007 L8501	STOP	VIDEO SIGNAL EXTRACTED CHROMA
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE/ PATTERN GENERATOR	WAVEFORM IS MINIMIZED	

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1. Disconnect the connector P8501 on the HQ Pack (VJB03339).
2. Set the output of PATTERN GENERATOR so that the chrominance signal is only generated and the output level to 200mVp-p. and then supply it to P8501-(1) on the sub Video (VJB03339).
3. Connect the OSCILLOSCOPE to TP8019.
4. Adjust VR8007 and L8501 mutually so that the waveform is minimized.

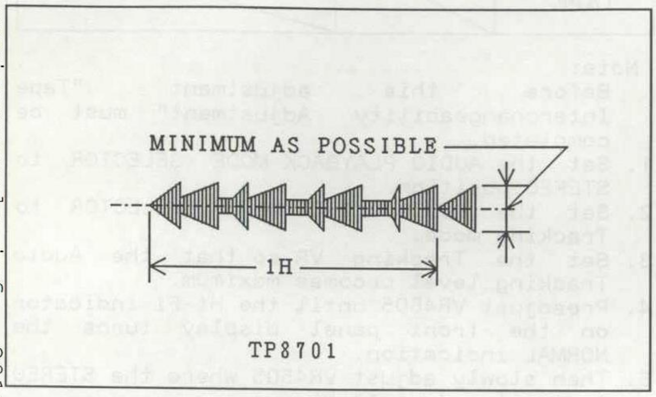
MINIMUM AS POSSIBLE
1H
TP8701

FIG.26

Note:
If you don't have PATTERN GENERATOR with continuous variable level control that is adjustable type, please prepare the following filter circuit.

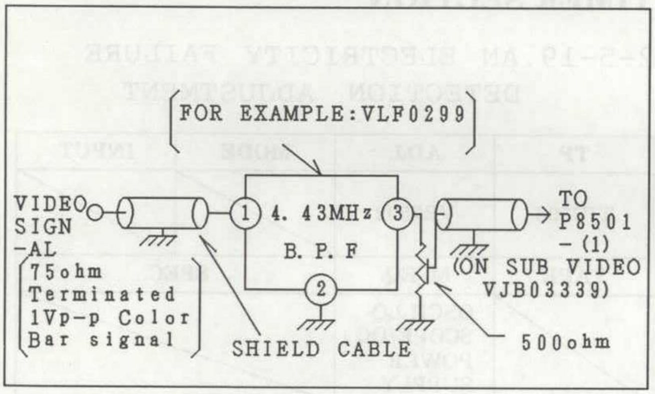
FOR EXAMPLE: VLF0299
VIDEO SIGN-AL
75ohm Terminated 1Vp-p Color Bar signal
1
4.43MHz
3
B. P. F
2
TO P8501 - (1) (ON SUB VIDEO VJB03339)
SHIELD CABLE
500ohm

FIG.27

AUDIO SECTION

2-5-13. AUDIO BIAS CURRENT ADJUSTMENT.

TP	ADJ.	MODE	INPUT
TP4002(+) TP4003(−)	VR4002	RECORDING	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	V.T.V.M	3.9±0.1mVrms	

2-5-14. PLAYBACK AUDIO SW ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4511 TP4502	VR4510	SELF RECORDING	SIGNAL GENERATOR (1kHz, −10dB)
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE/ SIGNAL GENERATOR		

Note:
Before this adjustment, "Tape Interchangeability Adjustment "and FM Audio Playback Adjustment" must be completed.

1. Set the AUDIO PLAYBACK MODE SELECTOR of the deck to STEREO mode. And the RECORDING VRs are center fix position.
2. Connect the output of SIGNAL GENERATOR to both Input Jacks (L) and (R).
3. Play back the just recorded portion.
4. Adjust VR4510 while listening to the stereo playback sound.
   (1). Confirm the "T1" time when the abnormal sound just occurs during turning clockwise on VR4510
   (2). Confirm the "T2" time when the abnormal sound just occurs during tuning countor clockwise on VR4510.
   (3). Ajust VR4510 so that the falling edge (T) of Audio H.SW pulse becomes the center portion of the both "T1" and "T2".

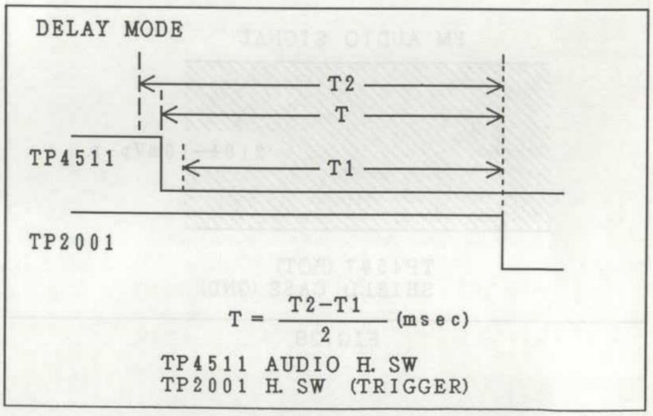
DELAY MODE
T2
T
T1
TP4511
TP2001
T = (T2−T1)/2 (msec)
TP4511 AUDIO H. SW
TP2001 H. SW (TRIGGER)

FIG.28

2-5-15. LEVEL METER SENSITIVITY & BALANCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
	VR6201 VR6202	STOP	SIGNAL GENERATOR (1kHz, −10dB)
TAPE	**M. EQ.**	**SPEC.**	
	SIGNAL GENERATOR/ V.T.V.M		

1. Set the AUDIO PLAYBACK MODE SELECTOR to the STEREO position.
2. Set the output of SIGNAL GENERATOR to 1KHz and -10 dB and supply it to both Input Jacks (L) and (R).
3. Set the output of AUDIO LINE OUT to 400mVrms by adjusting the RECORDING VRs.
4. Adjust VR6201 so that the 0dB indicator just lights up on the L-ch level meter.
5. Adjust VR6202 so that the 0dB indicator just lights up on the R-ch level meter.

2-5-16.AUDIO RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4507 (HOT) SHIELD CASE (GND)	VR4503	RECORDING	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	OSCILLO-SCOPE	210±10mVp-p	

1. Set the INPUT SIGNAL SELECTOR to CAMERA mode.
2. Connect the OSCILLOSCOPE to TP4507.
3. Adjust VR4503 for 210+-10m Vp-p.

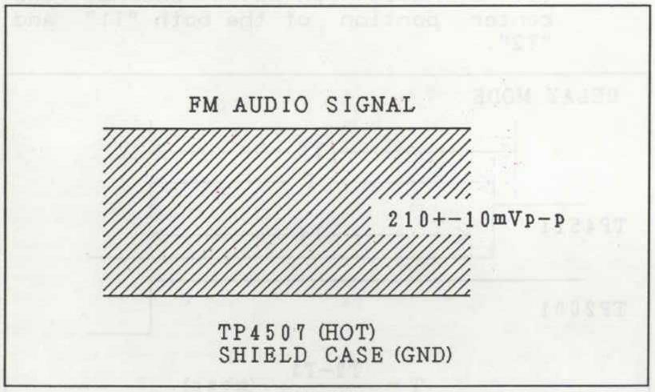

FIG.29

2-5-17.AUDIO PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
LINE OUT	VR4001	SELF RECORDING	SIGNAL GENERATOR (1kHz, −10dB)/ VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	SIGNAL GENERATOR/ V.T.V.M	E-E LEVEL=−8±2dB PLAYBACK LEVEL= E-E LEVEL ±0.5dB	

1. Set the RECORDING VRs are center fix position.
2. Play back the just recorded portion.
3. Adjust VR4001 (NORMAL mode) so that the level of the playback becomes E-E level +-0.5dB.

2-5-18.AUDIO MUTING ADJUSTMENT

TP	ADJ.	MODE	INPUT
	VR4505	SELF RECORDING	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE			

Note:
Before this adjustment "Tape Interchangeability Adjustment" must be completed.

1. Set the AUDIO PLAYBACK MODE SELECTOR to STEREO position.
2. Set the AUDIO LEVEL METER SELECTOR to Tracking mode.
3. Set the Tracking VR so that the Audio Tracking level becomes maximum.
4. Preadjust VR4505 until the Hi-Fi indicator on the front panel display turns the NORMAL indication.
5. Then slowly adjust VR4505 where the STEREO indication just lights up.
6. Confirm that the abnormal sound does not contain in the playback Hi-Fi sound.

TIMER SECTION

2-5-19.AN ELECTRICITY FAILURE DETECTION ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7508	VR7502		
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE/DC POWER SUPPLY		

Note:
Do not connect the AC power plug.

1. Set the voltage of the DC POWER SUPPLY for 4.6 +- 0.05V and supply it to IC7551-8 (+) and GND (-).
2. Set the voltage of another DC POWER SUPPLY for 4.5 +- 1V and supply it to Anode of D7555.
3. Adjust VR7502 so that the DC voltage is just turned high level into low level.
4. Confirm that the DC voltage becomes high level by supplying DC voltage for 4.8 +- 0.05V.

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2-5-20. TIMER CLOCK ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC7501-(41)	C7502		
TAPE	**M. EQ.**	**SPEC.**	
	FREQUENCY COUNTER/ DC POWER SUPPLY	3906.25±0.008μs	

Note:
Do not connect the AC power plug.

1. Set the voltage of the DC POWER SUPPLY for 5.8 +- 0.1V and supply it to P7502-1 (+) and GND (-).
2. Connect a jumper wire between P7501-11 and GND.
3. Connect the FREQUENCY COUNTER to IC7501-41.
4. Adjust C7502 for 3906.25 +- 0.008usec.

2-5-21. TIMER MUTING FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
IC7651-(4)	VR7660		
TAPE	**M. EQ.**	**SPEC.**	
	FREQUENCY COUNTER/ DC POWER SUPPLY	15.625±0.05kHz	

Note:
Do not connect the AC power plug

1. Set the voltage of the DC power supply for 12 +- 0.3V and supply it to IC 7651-(3)(+) and GND (-).
2. Connect the FREQUENCY COUNTER through the amplifier circuif as shown below.

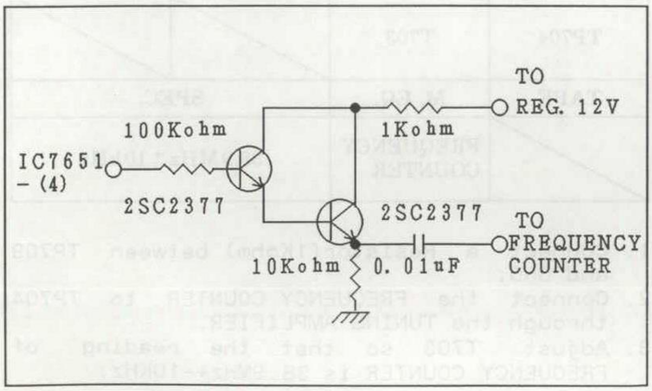

FIG.30

3. Adjust VR7660 so that the reading of the FREQUENCY COUNTER is 15.625 +- 0.05KHz.

TV DEMODULATOR SECTION

2-5-22. TEST EQUIPMENTS

To make adjustment completely, following equipments are required.

1. VIF SWEEP GENERATOR with the Trap Adjustor 38.9MHz
2. SIF SWEEP GENERATOR 5.5MHz 150KHz
3. CW OSCILLATOR 38.9MHz 100KHz
4. MONITOR SCOPE
5. OSCILLOSCOPE
6. DIGITAL VOLT METER
7. TUNING AMPLIFIER

Note:
To make this adjustment, please set the TV Demodulator Pack as shown below.

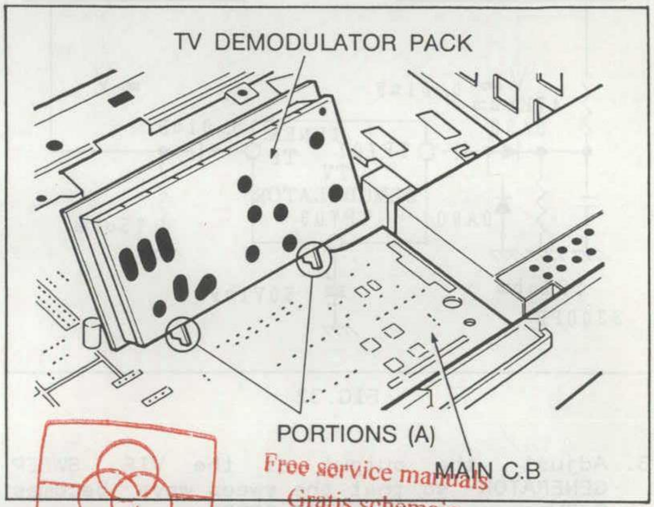

FIG.31

1. First remove the TV Demodulator Pack from the Main C.B. Then, reinstall the TV Demodulator Pack to the Main C.B. on foil side and finally solder the soldering portions of the TV Demodulator Pack. However, when reinstalling, be extrmely careful so that the portions (A) of the TV Demodulator Pack do not touch the Main C.B.

2-5-23. VIF SWEEP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP707	T703, TUNER CONVERTER COIL		VIF SWEEP
TAPE	**M. EQ.**	**SPEC.**	
	VIF SWEEP/ MONITOR SCOPE		

1. Set the BAND SW to VHF high position (VH) and set the DC POWER SUPPLY to 15V and suplly it to BT Terminal of the Tuner after removing resistor (R707) to cut off the BT voltage from IC7551-(2).

2. Set the AFC SW of the deck to OFF position.
3. Connect a jumper wire between AGC Terminal of the Tuner and GND.
4. Connect a capasitor (50V/1 uF) between TP703 and GND.
5. Connect the VIF SWEEP to the TUNER TEST POINT and connect the MONITOR SCOPE to TP707 as shown below.

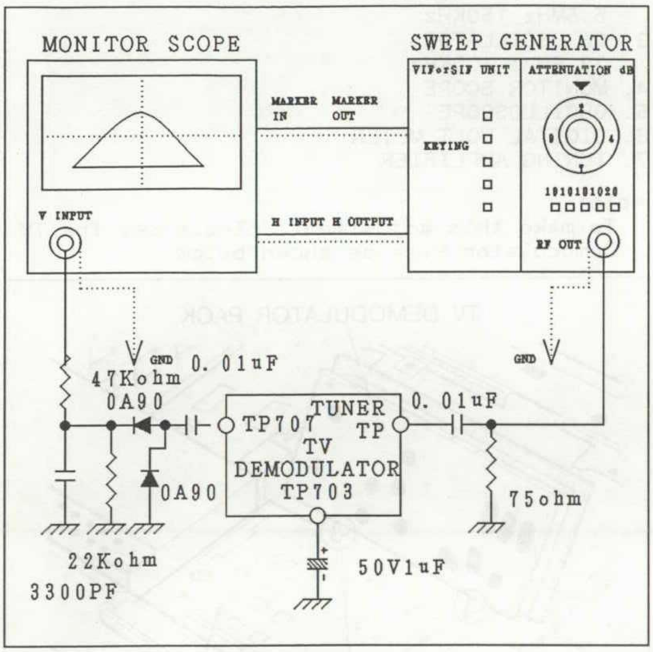
MONITOR SCOPE
SWEEP GENERATOR
VIForSIF UNIT
ATTENUATION dB
MARKER IN
MARKER OUT
KEYING
1010101020
V INPUT
H INPUT
H OUTPUT
RF OUT
GND
GND
0.01uF
47Kohm
0A90
TP707
TUNER TP
0.01uF
TV DEMODULATOR
TP703
0A90
75ohm
22Kohm
3300PF
50V1uF

FIG.32

6. Adjust the output of the VIF SWEEP GENERATOR so that the sweep wave becomes 0.3Vp-p on the MONITOR SCOPE.
7. Release the attenuator of the VIF SWEEP GENERATOR for 20dB.
8. Connect the JIG to both points TP709 and TV DEMODULATOR PACK-(3).

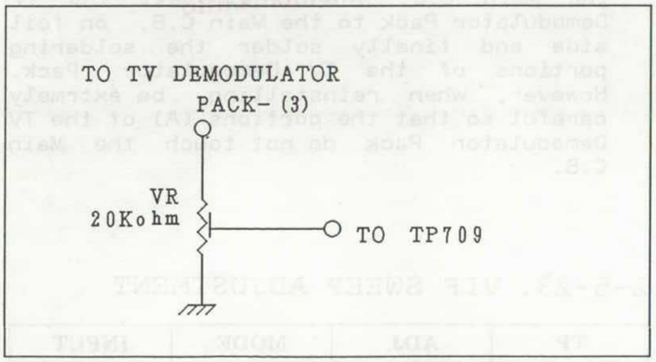
TO TV DEMODULATOR PACK-(3)
VR
20Kohm
TO TP709

FIG.33

9. Adjust the VR of the Adjustment JIg. so that the sweep wave becomes 0.3Vp-p on the MONITOR SCOPE.
10. Adjust T703 so that the VCO beat is placed to center of waveform as shown below.

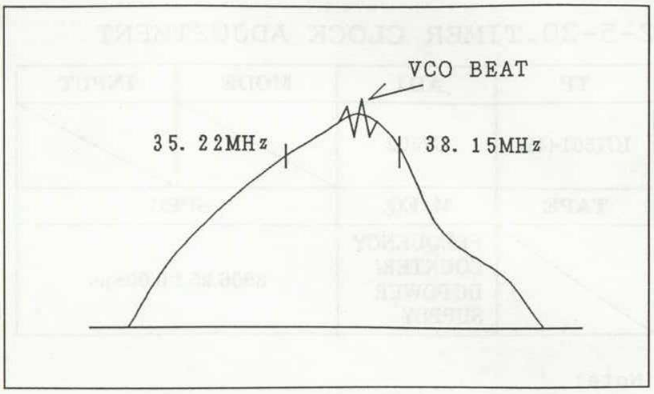

FIG.34

11. Readjust the VR of the Adjustment Jig. so that the sweep wave becomes 0.3Vp-p on the MONITOR SCOPE.
Adjust the T703 so that the waveform becomes as follows.
12. Preadjust the T701 & Tuner Converter Coil so that the sweep output waveform becomes maximum and then adjust the T701 & Tuner Converter Coil so that the waveform becomes as follows.

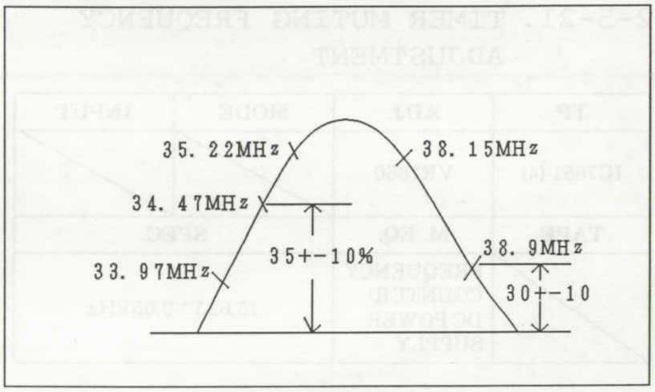

FIG.35

2-5-24. VCO ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP704	T703		
TAPE	**M. EQ.**	**SPEC.**	
	FREQUENCY COUNTER	38.9MHz±10kHz	

1. Connect a Resistor(1Kohm) between TP709 and GND.
2. Connect the FREQUENCY COUNTER to TP704 through the TUNING AMPLIFIER.
3. Adjust T703 so that the reading of FREQUENCY COUNTER is 38.9MHz+-10KHz.

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2-5-25. AFC ADJUSTMENT

TP	ADJ.	MODE	INPUT
AFC TERMINAL OF THE TUNER	T704		CW SIGNAL (38.9MHz)
TAPE	**M. EQ.**	**SPEC.**	
	CW OSCI-LLATOR/ D.V.M		

1. Set the BAND SW to the VHF high position (VH) and set the DC POWER SUPPLY to 15V and suplly it to BT Terminal of the Tuner after removing resistor (R707) to cut off the BT voltage from IC7550-(2).
2. Adjust the CW OSCILLATOR output to 1.0Vp-p and connect to the TUNER TEST POINT through a 10Kohm resistor.
3. Connect the D.V.M. to the TUNER TP of the tuner.
4. Confirm the voltage "A" of the D.V.M. when the AFC SW is off.
5. Set the AFC SW to on and adjust T704 for A +-0.3V.
6. Change the frequency of the CW OSCILLATOR +- 100KHz centered at 38.9MHz and confirm that the difference of the AFC voltage is more than +- 2V.

DECODER SECTION

2-5-26.TEST EQUIPMENTS

To make adjustment completely, following equipments are required.

1. Degital Volt Meter (D.V.M)
2. Oscilloscope
3. Multi Voice Modulator (M.V.M)
4. Frequency counter
5. Noise Meter

Note:
To make this adjustment, please set the DECODER Pack as follows.

1. First, remove the DECODER Pack from the Main C.B.
2. Reinstall the DECODER Pack to the Main C.B. on foil side and finally solder the soldering portions of the DECODER.

2-5-27. FM DETECTION TRANSFORMER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7013 TP7011	T711 T752		M.V.M (CH-10)
TAPE	**M. EQ.**	**SPEC.**	
	M.V.M./ OSCILLO-SCOPE/ PATTERN GENERATOR		

1. Supply a video signal (PHILIPS pattern) from the PATTERN GENERATOR to the input of the M.V.M.
2. Connect the output of the M.V.M to RF Input of the Deck.
3. Tune the tuning volume so that the modulated RF signal on the channel 10 is able to receive.
4. Set the AFC switch to "ON"
5. Connect the oscilloscope to TP7013.
6. Adjust T754 so that the output level on the oscilloscope becomes maximum.
7. Connect the oscilloscope to TP7011.
8. Adjust T755 so that the output level on the oscilloscope becomes maximum.

2-5-28. SOUND MULTIPLEX DETECTION ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7303 TP7304	VR7326 VR7328		M.V.M (CH-10)
TAPE	**M. EQ.**	**SPEC.**	
	M.V.M/ OSCILLO-SCOPE/ PATTERN GENERATOR	WAVEFORM IS MAXIMIZED	

1. Supply a video signal (PHILIPS pattern) from the PATTERN GENER to the input of the M.V.M.
2. Connect the output of the M.V.M to RF Input of the Deck.
3. Tune the tuning volume so that the modulated RF signal on the channel 10 is able to receive.
4. Set the AFC switch to "ON"
5. Connect the OSCILLOSCOPE to TP7303.
6. Set the mode switch of the M.V.M to STEREO mode.
7. Adjust VR7326 and T7301 mutually so that the waveform (117.5Hz) is maximized and then confirm that the STEREO LED on the Deck just lights up.
8. Re-set the mode switch of the M.V.M to Multiplex mode.
9. Re-connect the OSCILLOSCOPE to TP7304.
10. Adjust VR7328 so that the waveform (274.1Hz) is maximized and then confirm that the Multiplex LED on the Deck just lights up.

2-5-29.STEREO SEPARATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7008	VR7301		M.V.M (CH-10)
TAPE	**M. EQ.**	**SPEC.**	
	M.V.M/ PATTERN GENERATOR/ NOISE METER	LEVEL IS MINIMIZED	

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1. Supply a video signal (PHILIPS pattern) from the PATTERN GENER to the input of the M.V.M.
2. Connect the output of the M.V.M to RF Input of the Deck.
3. Tune the tuning volume so that the modulated RF signal on the channel 10 is able to receive.
4. Set the AFC switch to "ON"
5. Connect the NOISE METER TO TP7008
6. Set the mode switch of the M.V.M to RIGHT mode.
7. Adjust VR7301 so that the reading of the NOISE METER becomes minimum.

2-5-30. AUDIO OUTPUT LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP7008 TP7009	VR7344 VR7340		M.V.M (CH-10)
TAPE	**M. EQ.**	**SPEC.**	
	M.V.M/ NOISE METER/ PATTERN GENERATOR	100±5mVrms	

1. Supply a video signal (PHILIPS pattern) from the PATTERN GENER to the input of the M.V.M.
2. Connect the output of the M.V.M to RF Input of the Deck.
3. Tune the tuning volume so that the modulated RF signal on the channel 10 is able to receive.
4. Set the AFC switch to "ON"
5. Set the mode switch of the M.V.M to LEFT mode.
6. Connect the NOISE METER to TP7008.
7. Adjust VR7344 for 100+-5mVrms.
8. Re-set the mode switch of the M.V.M to RIGHT mode.
9. Re-connect the NOISE METER to TP7009.
10. Adjust VR7340 for 100+-5mVrms.

2-5-31. MAIN AUDIO OUTPUT LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TV DEMODULATOR PACK-(4)	VR751		M.V.M (CH-10)
TAPE	**M. EQ.**	**SPEC.**	
	M.V.M/ NOISE METER/ PATTERN GENERATOR	135mVrms	

1. Supply a video signal (PHILIPS pattern) from the PATTERN GENERATOR to the input of the M.V.M.
2. Connect the output of the M.V.V to RF Input of the Deck.
3. Tune the tuning volume so that the modulated RF signal on the channel 10 is received.
4. Set the AFC switch to "ON".
5. Set the mode switch of the M.V.M to NORMAL mode.
6. Connect the NOISE METER to the TV Demodulator Pack-(4).
7. Adjust VR751 for 135mVrms.

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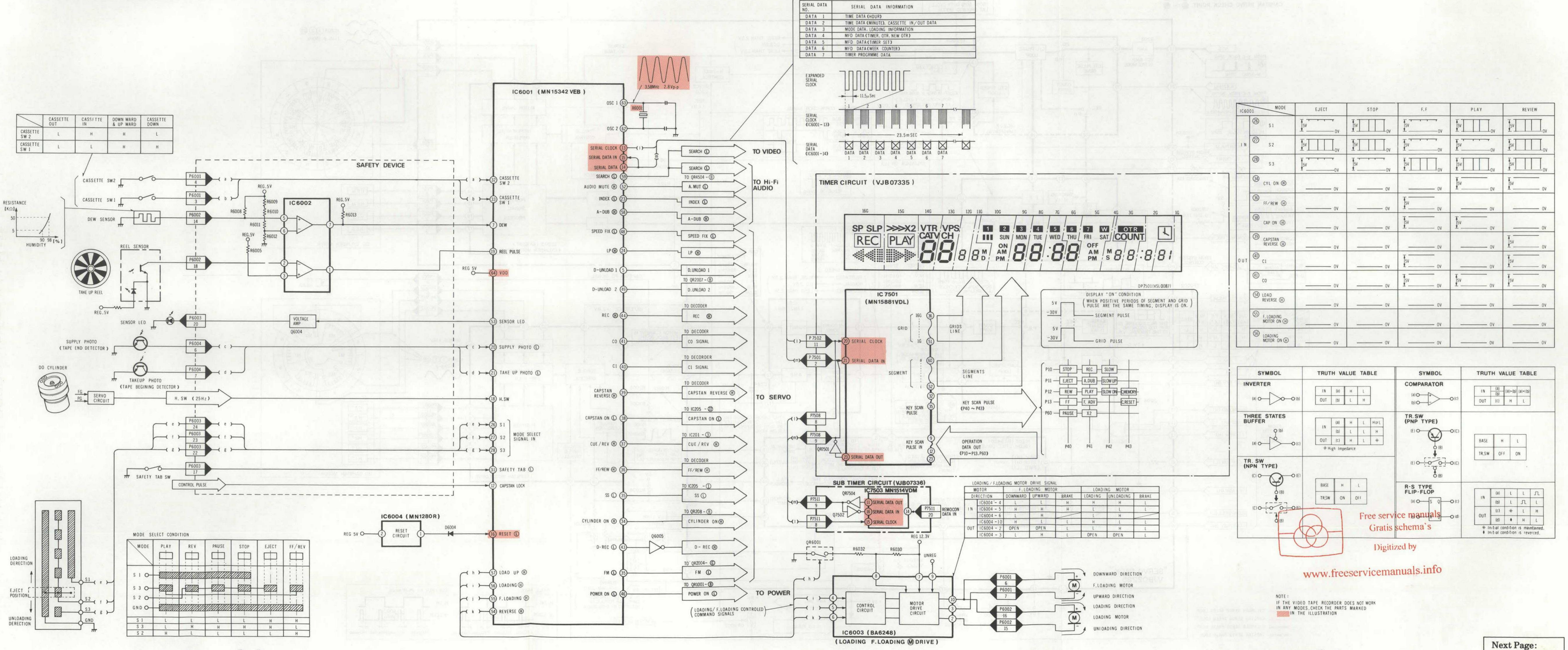
SECTION 3
BLOCK DIAGRAMS & SCHEMATIC DIAGRAMS
3-1. SYSTEM CONTROL BLOCK DIAGRAM


IC6001 (MN15342VEB)
3.58MHz 2.8Vp-p
X6001
OSC 1
OSC 2
SERIAL CLOCK
SERIAL DATA IN
SERIAL DATA
SAFETY DEVICE
CASSETTE SW2
CASSETTE SW1
DEW SENSOR
RESISTANCE (KΩ)
HUMIDITY
REEL SENSOR
TAKE UP REEL
IC6002
SENSOR LED
VOLTAGE AMP Q6004
SUPPLY PHOTO (TAPE END DETECTOR)
TAKEUP PHOTO (TAPE BEGINING DETECTOR)
DD CYLINDER
SERVO CIRCUIT
H. SW (25Hz)
SAFETY TAB SW
CONTROL PULSE
MODE SELECT SIGNAL IN
IC6004 (MN1280R)
RESET CIRCUIT
LOADING DERECTION
EJECT POSITION
UNLOADING DERECTION
TO VIDEO
TO Hi-Fi AUDIO
TO SERVO
TO POWER
TO DECODER
TIMER CIRCUIT (VJB07335)
IC7501 (MN15881VDL)
GRID
SEGMENT
KEY SCAN PULSE
KEY SCAN PULSE IN
OPERATION DATA OUT (P10~P13.P60)
SUB TIMER CIRCUIT (VJB07336)
IC7503 MN1514VDM
SERIAL DATA OUT
REMOCON DATA IN
IC6003 (BA6248)
(LOADING F.LOADING Ⓜ DRIVE)
CONTROL CIRCUIT
MOTOR DRIVE CIRCUIT
DOWNWARD DIRECTION
F.LOADING MOTOR
UPWARD DIRECTION
LOADING DIRECTION
LOADING MOTOR
UNLOADING DIRECTION
(LOADING/F.LOADING CONTROLED COMMAND SIGNALS)
EXPANDED SERIAL CLOCK
11.5μSec
23.5mSEC
SERIAL CLOCK (IC6001-13)
SERIAL DATA (IC6001-14)
DISPLAY "ON" CONDITION (WHEN POSITIVE PERIODS OF SEGMENT AND GRID PULSE ARE THE SAME TIMING, DISPLAY IS ON.)
SEGMENT PULSE
GRID PULSE
SYMBOL
TRUTH VALUE TABLE
INVERTER
THREE STATES BUFFER
TR. SW (NPN TYPE)
COMPARATOR
TR. SW (PNP TYPE)
R-S TYPE FLIP-FLOP
* High Impedance

SERIAL DATA NO.	SERIAL DATA INFORMATION
DATA 1	TIME DATA (HOUR)
DATA 2	TIME DATA (MINUTE). CASSETTE IN/OUT DATA
DATA 3	MODE DATA. LOADING INFORMATION
DATA 4	MFD DATA (TIMER. OTR. NEW OTR)
DATA 5	MFD DATA (TIMER SET)
DATA 6	MFD DATA (WEEK COUNTER)
DATA 7	TIMER PROGRMME DATA

	CASSETTE OUT	CASSETTE IN	DOWN WARD & UP WARD	CASSETTE DOWN
CASSETTE SW 2	L	H	H	L
CASSETTE SW 1	L	L	H	H

MODE SELECT CONDITION

MODE	PLAY	REV	PAUSE	STOP	EJECT	FF/REV
S 1	L	L	L	L	H	H
S 3	L	H	H	H	H	L
S 2	H	L	L	L	L	H

LOADING/F.LOADING MOTOR DRIVE SIGNAL

MOTOR		F.LOADING MOTOR			LOADING MOTOR		
DIRECTION		DOWNWARD	UPWARD	BRAKE	LOADING	UNLOADING	BRAKE
IN	IC6004 - 4	L	L	H	H	H	L
	IC6004 - 5	H	H	H	L	L	L
	IC6004 - 6	L	H		L	H	
OUT	IC6004 - 10	H	L	L	H	L	L
	IC6004 - 2	OPEN	OPEN	L	L	H	L
	IC6004 - 3	L	H	L	OPEN	OPEN	L

NOTE:
IF THE VIDEO TAPE RECORDER DOES NOT WORK IN ANY MODES, CHECK THE PARTS MARKED ▨ IN THE ILLUSTRATION

Next Page:
SERVO Section

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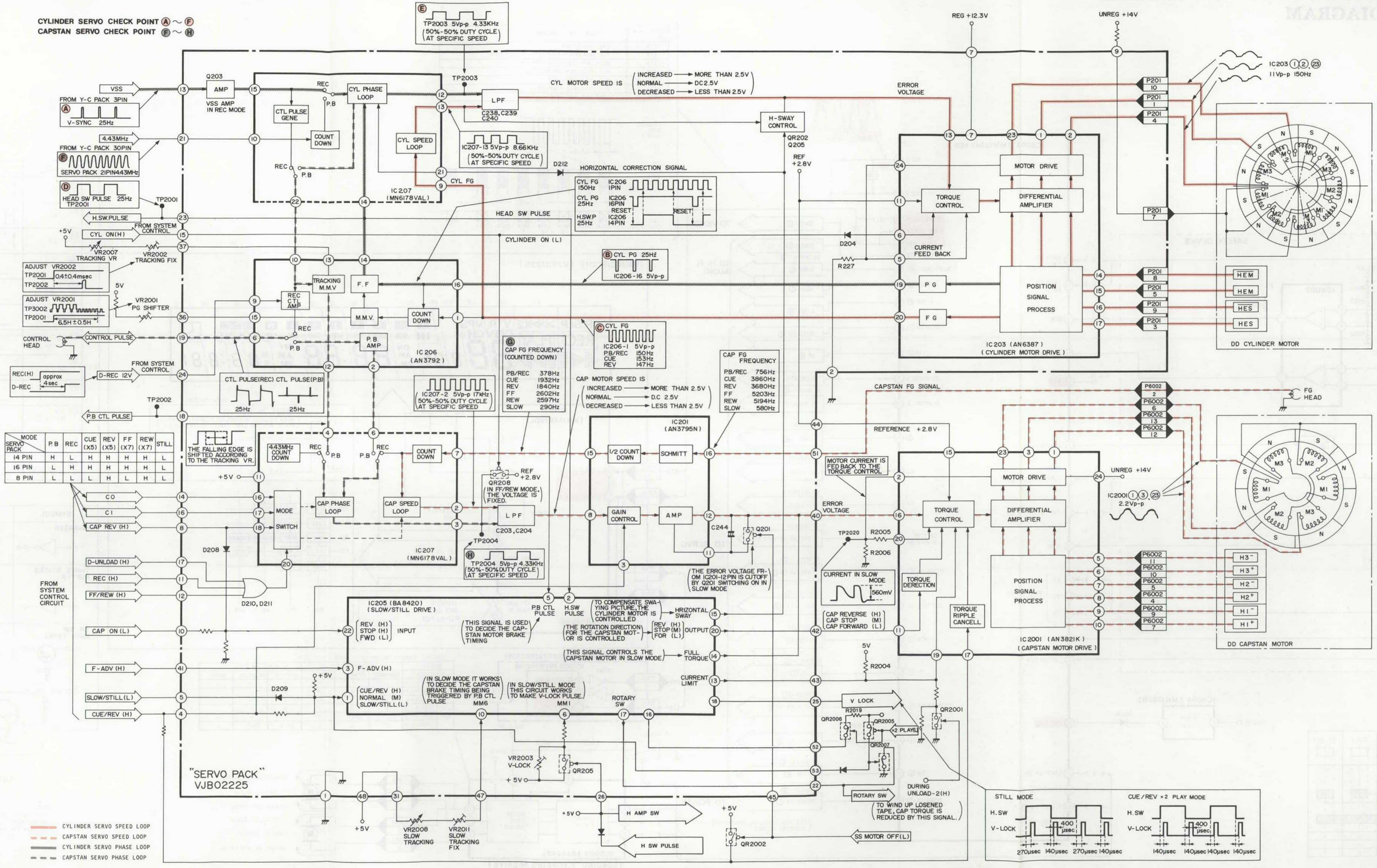
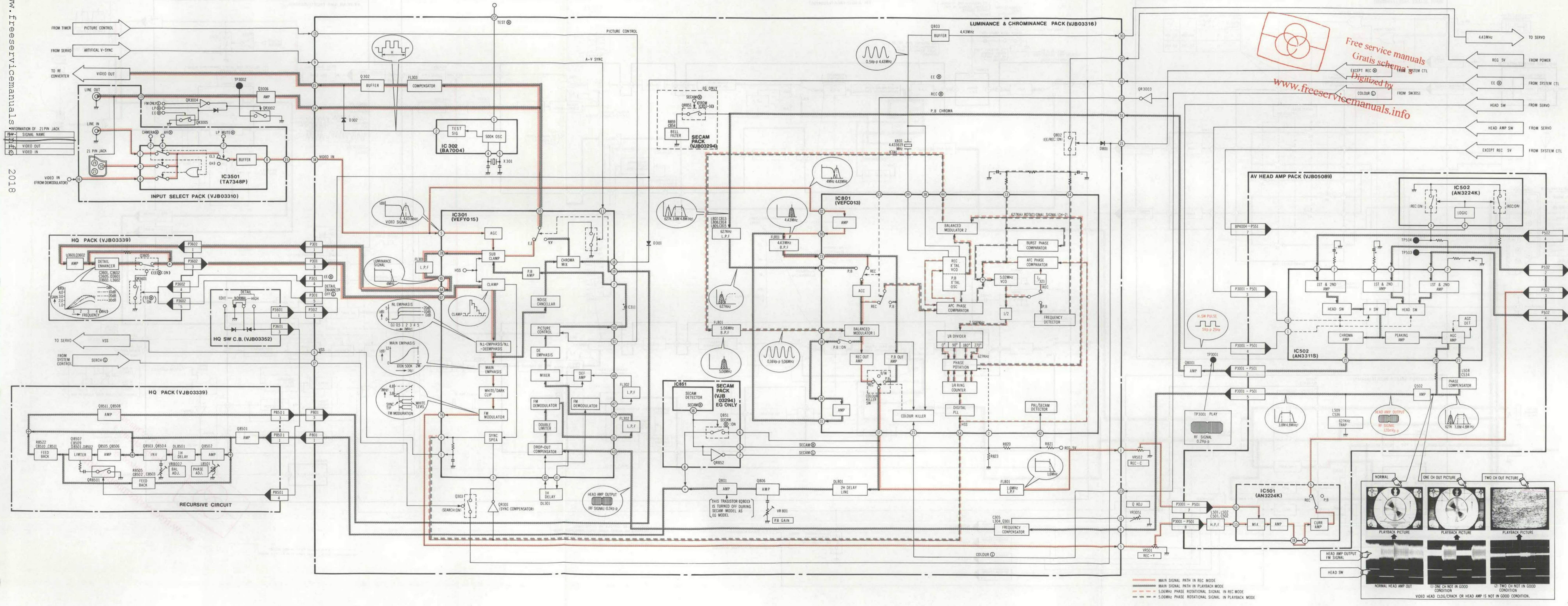
3-2. SERVO BLOCK DIAGRAM


CYLINDER SERVO CHECK POINT Ⓐ ~ Ⓔ
CAPSTAN SERVO CHECK POINT Ⓕ ~ Ⓗ
Ⓔ TP2003 5Vp-p 4.33KHz (50%-50% DUTY CYCLE AT SPECIFIC SPEED
TP2003
VSS
FROM Y-C PACK 3PIN
Ⓐ V-SYNC 25Hz
4.43MHz
FROM Y-C PACK 30PIN
Ⓕ SERVO PACK 21PIN 443MHz
Ⓓ HEAD SW PULSE 25Hz TP2001
Q203
AMP
VSS AMP IN REC MODE
REC
P.B
CYL PHASE LOOP
CTL PULSE GENE
COUNT DOWN
CYL SPEED LOOP
LPF
C238, C239 C240
IC207-3 5Vp-p 8.66KHz (50%-50% DUTY CYCLE AT SPECIFIC SPEED
IC207 (MN6178VAL)
CYL FG
D212
CYL MOTOR SPEED IS
INCREASED → MORE THAN 2.5V
NORMAL → DC 2.5V
DECREASED → LESS THAN 2.5V
H-SWAY CONTROL
QR202 Q205
REF +2.8V
HORIZONTAL CORRECTION SIGNAL
CYL FG 150Hz IC206 1PIN
CYL PG 25Hz IC206 16PIN
H.SWP 25Hz IC206 14PIN
RESET
HEAD SW PULSE
CYLINDER ON (L)
Ⓑ CYL PG 25Hz IC206-16 5Vp-p
H.SW PULSE
FROM SYSTEM CONTROL
+5V
CYL ON (H)
VR2007 TRACKING VR
VR2002 TRACKING FIX
ADJUST VR2002 TP2001 0.4±0.4msec TP2002
ADJUST VR2001 TP3002 TP2001 6.5H±0.5H
5V
VR2001 PG SHIFTER
CONTROL HEAD
CONTROL PULSE
TRACKING M.M.V
F.F
REC CTL AMP
M.M.V.
COUNT DOWN
P.B AMP
IC206 (AN3792)
Ⓖ CAP FG FREQUENCY (COUNTED DOWN)
PB/REC 378Hz
CUE 1932Hz
REV 1840Hz
FF 2602Hz
REW 2597Hz
SLOW 290Hz
Ⓒ CYL FG IC206-1 5Vp-p
PB/REC 150Hz
CUE 153Hz
REV 147Hz
CAP MOTOR SPEED IS
INCREASED → MORE THAN 2.5V
NORMAL → D.C 2.5V
DECREASED → LESS THAN 2.5V
CAP FG FREQUENCY
PB/REC 756Hz
CUE 3860Hz
REV 3680Hz
FF 5203Hz
REW 5194Hz
SLOW 580Hz
REC(H) D-REC approx 4sec
D-REC 12V
FROM SYSTEM CONTROL
CTL PULSE(REC) CTL PULSE(P.B) 25Hz 25Hz
IC207-2 5Vp-p 17KHz) 50%-50% DUTY CYCLE AT SPECIFIC SPEED
TP2002
P.B CTL PULSE
THE FALLING EDGE IS SHIFTED ACCORDING TO THE TRACKING VR.
443MHz COUNT DOWN
+5V
MODE SWITCH
CAP PHASE LOOP
CAP SPEED LOOP
COUNT DOWN
QR208 (IN FF/REW MODE, THE VOLTAGE IS FIXED.
REF +2.8V
LPF
C203, C204
TP2004
IC207 (MN6178VAL)
Ⓗ TP2004 5Vp-p 4.33KHz (50%-50% DUTY CYCLE AT SPECIFIC SPEED
IC201 (AN3795N)
1/2 COUNT DOWN
SCHMITT
GAIN CONTROL
AMP
C244
Q201
THE ERROR VOLTAGE FROM IC201-12PIN IS CUTOFF BY Q201 SWITCHING ON IN SLOW MODE
CO
C1
CAP REV (H)
D208
D-UNLOAD (H)
REC (H)
FF/REW (H)
FROM SYSTEM CONTROL CIRCUIT
D210, D211
CAP ON (L)
F-ADV (H)
SLOW/STILL (L)
CUE/REV (H)
D209
+5V
IC205 (BA8420) (SLOW/STILL DRIVE)
REV (H) STOP (H) FWD (L) INPUT
THIS SIGNAL IS USED TO DECIDE THE CAPSTAN MOTOR BRAKE TIMING
F-ADV (H)
CUE/REV (H) NORMAL (M) SLOW/STILL (L)
IN SLOW MODE IT WORKS TO DECIDE THE CAPSTAN BRAKE TIMING BEING TRIGGERED BY P.B CTL PULSE
IN SLOW/STILL MODE THIS CIRCUIT WORKS TO MAKE V-LOCK PULSE. MM1
MM6
P.B CTL PULSE
H.SW PULSE
TO COMPENSATE SWAYING PICTURE, THE CYLINDER MOTOR IS CONTROLLED
HORIZONTAL SWAY
THE ROTATION DIRECTION FOR THE CAPSTAN MOTOR IS CONTROLLED
REV (H) STOP (M) FOR (L) OUTPUT
THIS SIGNAL CONTROLS THE CAPSTAN MOTOR IN SLOW MODE
FULL TORQUE
CURRENT LIMIT
ROTARY SW
VR2003 V-LOCK
QR205
+5V
"SERVO PACK" VJB02225
+5V
VR2008 SLOW TRACKING
VR2011 SLOW TRACKING FIX
H AMP SW
H SW PULSE
QR2002
REG +12.3V
UNREG +14V
ERROR VOLTAGE
IC203 ①②㉓ 11Vp-p 150Hz
P201
MOTOR DRIVE
TORQUE CONTROL
DIFFERENTIAL AMPLIFIER
D204
R227
CURRENT FEED BACK
P G
F G
POSITION SIGNAL PROCESS
IC203 (AN6387) (CYLINDER MOTOR DRIVE)
HEM
HEM
HES
HES
DD CYLINDER MOTOR
M1 M2 M3 N S
CAPSTAN FG SIGNAL
P6002
FG HEAD
REFERENCE +2.8V
MOTOR CURRENT IS FED BACK TO THE TORQUE CONTROL
UNREG +14V
IC2001 ①③㉕ 2.2Vp-p
ERROR VOLTAGE
TP2020
R2005
R2006
MOTOR DRIVE
TORQUE CONTROL
DIFFERENTIAL AMPLIFIER
CURRENT IN SLOW MODE 560mV
TORQUE DERECTION
TORQUE RIPPLE CANCELL
POSITION SIGNAL PROCESS
IC2001 (AN3821K) (CAPSTAN MOTOR DRIVE)
H3⁻ H3⁺ H2⁻ H2⁺ H1⁻ H1⁺
DD CAPSTAN MOTOR
CAP REVERSE (H) CAP STOP (M) CAP FORWARD (L)
5V
R2004
V LOCK
R2019
QR2006
QR2005
QR2007
QR2001
×2 PLAY(L)
DURING UNLOAD-2(H)
ROTARY SW
TO WIND UP LOOSENED TAPE, CAP TORQUE IS REDUCED BY THIS SIGNAL.
SS MOTOR OFF(L)
STILL MODE
CUE/REV ×2 PLAY MODE
H.SW
V-LOCK
400 μsec
270μsec 140μsec 270μsec 140μsec
140μsec 140μsec 140μsec 140μsec
CYLINDER SERVO SPEED LOOP
CAPSTAN SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
CAPSTAN SERVO PHASE LOOP

SERVO PACK \ MODE	P.B	REC	CUE (X5)	REV (X5)	FF (X7)	REW (X7)	STILL
14 PIN	H	L	H	H	H	H	L
16 PIN	L	H	H	H	H	H	L
8 PIN	L	L	L	H	L	H	L

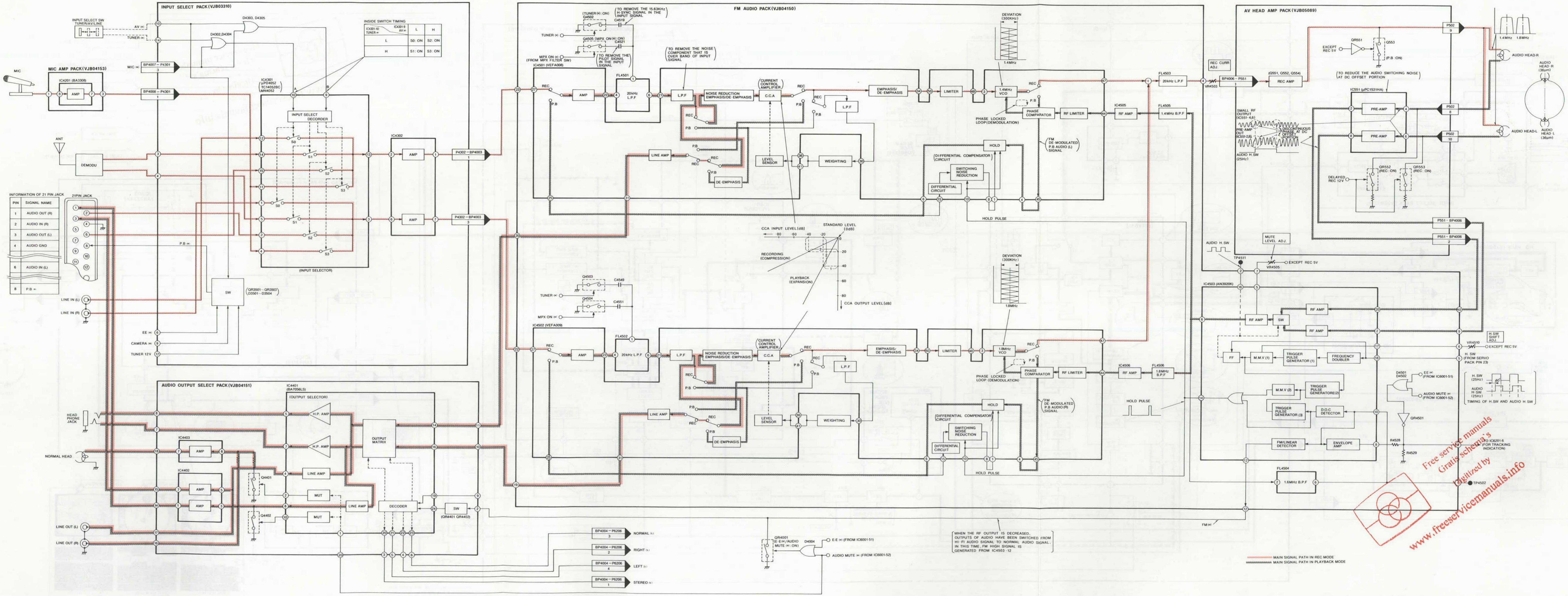
3-3. LUMINANCE & CHROMINANCE BLOCK DIAGRAM


FROM TIMER
PICTURE CONTROL
FROM SERVO
ARTIFICIAL V-SYNC
TO RF CONVERTER
VIDEO OUT
LINE OUT
LINE IN
21 PIN JACK
INFORMATION OF 21 PIN JACK
PIN No.
SIGNAL NAME
VIDEO OUT
VIDEO IN
VIDEO IN (FROM DEMODULATOR)
IC3501 (TA7348P)
BUFFER
INPUT SELECT PACK (VJB03310)
HQ PACK (VJB03339)
DETAIL ENHANCER
AMP
FREQUENCY
HQ SW C.B. (VJB03352)
EDIT
NORMAL
HIGH
DETAIL
TO SERVO
VSS
FROM SYSTEM CONTROL
SEARCH
HQ PACK (VJB03339)
LIMITER
INV
1H DELAY
BAL ADJ.
PHASE ADJ.
FEED BACK
RECURSIVE CIRCUIT
LUMINANCE & CHROMINANCE PACK (VJB03316)
TEST
PICTURE CONTROL
A-V SYNC
Q302
BUFFER
FL303
COMPENSATOR
TEST SIG
500K OSC
IC302 (BA7004)
X301
VIDEO IN
IC301 (VEFY015)
AGC
VIDEO SIGNAL
LUMINANCE SIGNAL
SUB CLAMP
CLAMP
L.P.F
P.B AMP
CHROMA MIX
NOISE CANCELLER
NL EMPHASIS
MAIN EMPHASIS
NL-EMPHASIS/NL-DEEMPHASIS
MAIN EMPHASIS
WHITE/DARK CLIP
FM MODULATOR
FM MODULATION
SYNC SPEA
PICTURE CONTROL
DE EMPHASIS
MIXER
DEF AMP
FM DEMODULATOR
DOUBLE LIMITER
DROP-OUT COMPENSATOR
1H DELAY
DL301
HEAD AMP OUTPUT (RF SIGNAL 0.5Vp-p)
Q303 (SEARCH:ON)
Q301 (SYNC COMPENSATOR)
SECAM PACK (VJB03294)
EG ONLY
BELL FILTER
L.P.F
B.P.F
IC801 (VEFC013)
4.43MHz
FL801
5.06MHz B.P.F
0.5Vp-p 4.43MHz
0.36Vp-p 5.06MHz
ACC
BALANCED MODULATOR 1
BALANCED MODULATOR 2
REC OUT AMP
P.B OUT AMP
COLOUR KILLER SW
COLOUR KILLER
REC X'TAL VCO
P.B X'TAL OSC
APC PHASE COMPARATOR
BURST PHASE COMPARATOR
AFC PHASE COMPARATOR
5.02MHz VCO
FREQUENCY DETECTOR
1/4 DIVIDER
PHASE ROTATION
1/4 RING COUNTER
DIGITAL PLL
PAL/SECAM DETECTOR
627KHz ROTATIONAL SIGNAL
IC851
SECAM DETECTOR
SECAM PACK (VJB03294) EG ONLY
Q801 AMP
Q806 AMP
THIS TRANSISTOR (Q801) IS TURNED OFF DURING SECAM MODEL AS EG MODEL
VR801 P.B GAIN
DL801 2H DELAY LINE
FL801 1.6MHz L.P.F
FREQUENCY COMPENSATOR
Q803 BUFFER
4.43MHz
Q802 (EE/REC:ON)
D801
Q3003
TO SERVO
REG 9V
FROM POWER
EXCEPT REC
FROM SYSTEM CTL
FROM SYSTEM CTL
COLOUR
FROM SW3051
HEAD SW
FROM SERVO
HEAD AMP SW
FROM SERVO
EXCEPT REC 5V
FROM SYSTEM CTL
AV HEAD AMP PACK (VJB05089)
IC502 (AN3224K)
LOGIC
1ST & 2ND AMP
HEAD SW
CHROMA AMP
PEAKING AMP
AGC AMP
AGC DET
IC502 (AN3311S)
PHASE COMPENSATOR
Q502 AMP
VIDEO HEAD
TP3001 PLAY
RF SIGNAL 0.2Vp-p
H.SW PULSE
Q8001 AMP
HEAD AMP OUTPUT RF SIGNAL
VR502 REC-C
VR3051
IC501 (AN3224K)
H.P.F
MIX
AMP
CURR AMP
VR501 REC-Y
REC 5V
COLOUR
NORMAL
ONE CH OUT PICTURE
TWO CH OUT PICTURE
PLAYBACK PICTURE
PLAYBACK PICTURE
PLAYBACK PICTURE
HEAD AMP OUTPUT FM SIGNAL
HEAD SW
NORMAL HEAD AMP OUT
(1) ONE CH NOT IN GOOD CONDITION
(2) TWO CH NOT IN GOOD CONDITION
VIDEO HEAD CLOG/CRACK OR HEAD AMP IS NOT IN GOOD CONDITION.
MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN REC MODE
5.06MHz PHASE ROTATIONAL SIGNAL IN PLAYBACK MODE

Next Page:
FM AUDIO Section

4/17/2018

3-4. FM AUDIO BLOCK DIAGRAM

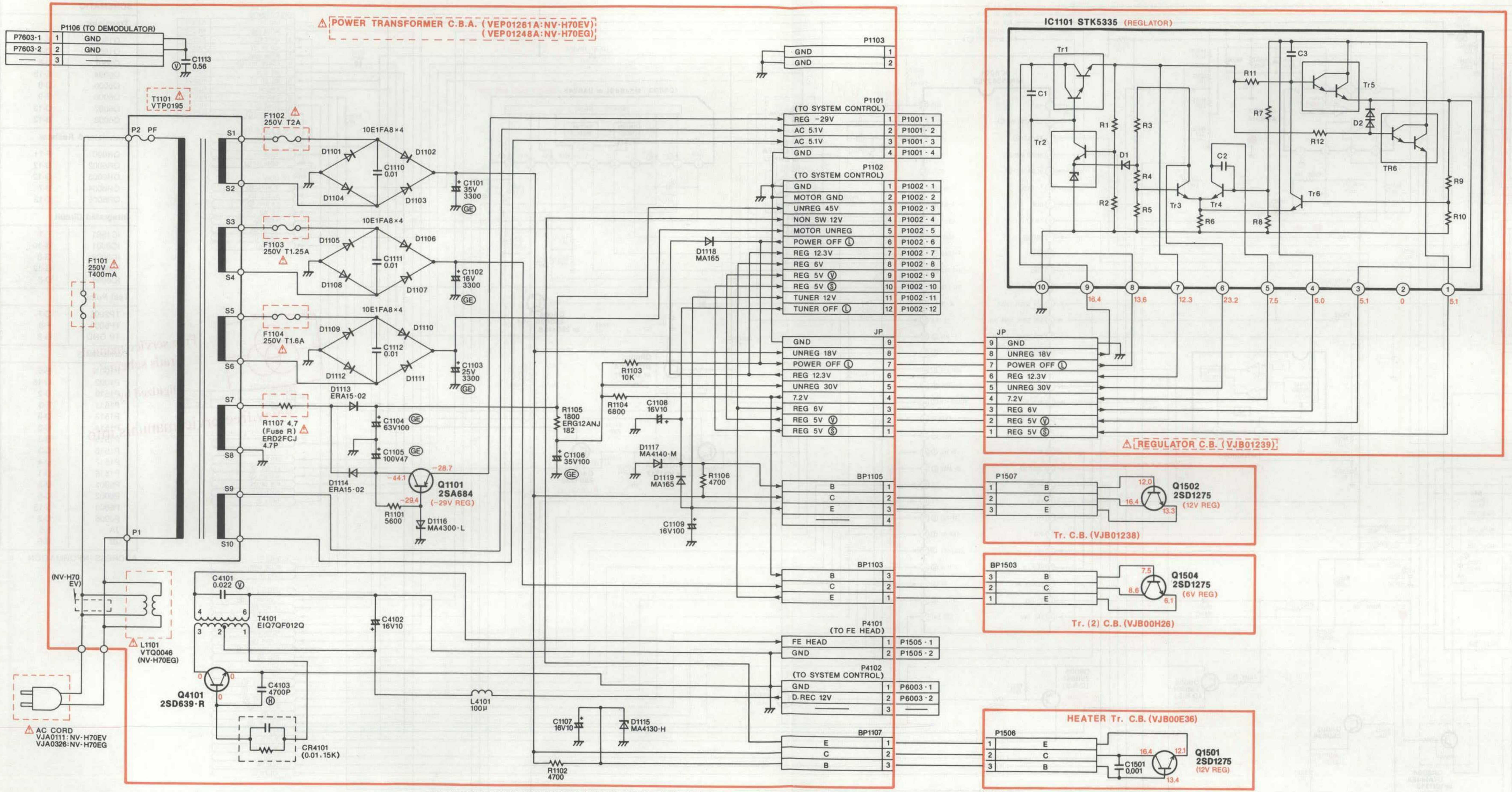

INPUT SELECT PACK (VJB03310)
INPUT SELECT SW TUNER/AV/LINE
AV (H)
TUNER (H)
D4303, D4305
D4302, D4304
INSIDE SWITCH TIMING
S0: ON
S1: ON
S2: ON
S3: ON
MIC
MIC AMP PACK (VJB04153)
IC4201 (BA3308)
AMP
BP4007 – P4301
BP4008 – P4301
IC4301 (µPD4052 TC14052BC MN4052)
INPUT SELECT DECORDER
ANT
DEMODU
IC4302
AMP
P4302 – BP4003
21PIN JACK
LINE IN (L)
LINE IN (R)
SW
(QR3501 – QR3503 D3501 – D3504)
(INPUT SELECTOR)
EE (H)
CAMERA (H)
TUNER 12V
FM AUDIO PACK (VJB04150)
(TUNER (H): ON) Q4502
(TO REMOVE THE 15.63KHz H-SYNC SIGNAL IN THE INPUT SIGNAL)
C4519
TUNER (H)
Q4505 (MPX ON (H): ON)
C4521
MPX ON (H) (FROM MPX FILTER SW)
(TO REMOVE THE PILOT SIGNAL IN THE INPUT SIGNAL)
IC4501 (VEFA008)
(TO REMOVE THE NOISE COMPONENT THAT IS OVER BAND OF INPUT SIGNAL)
FL4501
20kHz L.P.F
L.P.F
NOISE REDUCTION EMPHASIS/DE-EMPHASIS
CURRENT CONTROL AMPLIFIER
C.C.A
EMPHASIS/DE-EMPHASIS
LIMITER
DEVIATION (300KHz)
1.4MHz
1.4MHz VCO
PHASE COMPARATOR
PHASE LOCKED LOOP (DEMODULATION)
RF LIMITER
IC4505
RF AMP
FL4503
20kHz L.P.F
FL4505
1.4MHz B.P.F
(FM DE-MODULATED P.B AUDIO (L) SIGNAL)
LINE AMP
DE-EMPHASIS
LEVEL SENSOR
WEIGHTING
HOLD
(DIFFERENTIAL COMPENSATOR) CIRCUIT
SWITCHING NOISE REDUCTION
DIFFERENTIAL CIRCUIT
HOLD PULSE
CCA INPUT LEVEL (dB)
STANDARD LEVEL (0dB)
RECORDING (COMPRESSION)
PLAYBACK (EXPANSION)
CCA OUTPUT LEVEL (dB)
Q4503
C4549
Q4504
C4551
IC4502 (VEFA009)
FL4502
DEVIATION (300KHz)
1.8MHz
1.8MHz VCO
IC4506
FL4506
1.8MHz B.P.F
(FM DE-MODULATED P.B AUDIO (R) SIGNAL)
AUDIO OUTPUT SELECT PACK (VJB04151)
IC4401 (BA7056LS) (OUTPUT SELECTOR)
HEAD PHONE JACK
H.P. AMP
OUTPUT MATRIX
NORMAL HEAD
IC4403
IC4402
LINE AMP
MUT
Q4401
Q4402
DECODER
SW (QR4401 QR4402)
LINE OUT (L)
LINE OUT (R)
BP4004 – P6206
NORMAL (L)
RIGHT (L)
LEFT (L)
STEREO (L)
QR4001 (E·E (H)/AUDIO MUTE (H): ON)
D4004
E·E (H) (FROM IC6001-51)
AUDIO MUTE (H) (FROM IC6001-52)
AV HEAD AMP PACK (VJB05089)
REC CURR ADJ.
VR4503
BP4006 – P551
(Q551, Q552, Q554)
REC AMP
P502
EXCEPT REC 5V
QR551
Q553
(P.B: ON)
1.4MHz
1.8MHz
AUDIO HEAD-R
AUDIO HEAD-L
AUDIO HEAD-R (36µm)
AUDIO HEAD-L (36µm)
(TO REDUCE THE AUDIO SWITCHING NOISE AT DC OFFSET PORTION)
IC551 (µPC1531HA)
PRE-AMP
SMALL RF OUTPUT (IC551-4,6)
PRE-AMP OUT (IC551-2,8)
DISCONTINUOUS PHASE AT DC OFFSET PORTION
AUDIO H.SW (25Hz)
DELAYED REC 12V
QR552 (REC: ON)
QR553 (REC: ON)
P551 – BP4006
AUDIO H.SW
TP4511
MUTE LEVEL ADJ.
VR4505
EXCEPT REC 5V
IC4503 (AN3920K)
RF AMP
SW
FF
M.M.V (1)
TRIGGER PULSE GENERATOR (1)
FREQUENCY DOUBLER
H.SW SHIFT ADJ.
VR4510
EXCEPT REC 5V
H.SW (FROM SERVO PACK PIN 23)
D4501 D4502
EE (H) (FROM IC6001-51)
AUDIO MUTE (H) (FROM IC6001-52)
H.SW (25Hz)
AUDIO H.SW (25Hz)
TIMING OF H.SW AND AUDIO H.SW
M.M.V (2)
TRIGGER PULSE GENERATOR (2)
TRIGGER PULSE GENERATOR (3)
D.O.C DETECTOR
HOLD PULSE
QR4501
FM/LINEAR DETECTOR
ENVELOPE AMP
R4528
R4529
TO IC6201-6 (FOR TRACKING INDICATION)
FL4504
1.6MHz B.P.F
TP4502
FM (H)
MAIN SIGNAL PATH IN REC MODE
MAIN SIGNAL PATH IN PLAYBACK MODE

INFORMATION OF 21 PIN JACK

PIN	SIGNAL NAME
1	AUDIO OUT (R)
2	AUDIO IN (R)
3	AUDIO OUT (L)
4	AUDIO GND
6	AUDIO IN (L)
8	P.B (H)

WHEN THE RF OUTPUT IS DECREASED, OUTPUTS OF AUDIO HAVE BEEN SWITCHED FROM HI-FI AUDIO SIGNAL TO NORMAL AUDIO SIGNAL. IN THIS TIME, FM HIGH SIGNAL IS GENERATED FROM IC4503-12

3-5. POWER TRANSFORMER SCHEMATIC DIAGRAM


POWER TRANSFORMER C.B.A. (VEP01261A:NV-H70EV) (VEP01248A:NV-H70EG)
P1106 (TO DEMODULATOR)
P7603-1
P7603-2
GND
C1113 0.56
T1101 VTP0195
F1101 250V T400mA
F1102 250V T2A
F1103 250V T1.25A
F1104 250V T1.6A
10E1FA8×4
D1101
D1102
D1103
D1104
D1105
D1106
D1107
D1108
D1109
D1110
D1111
D1112
C1110 0.01
C1111 0.01
C1112 0.01
C1101 35V 3300
C1102 16V 3300
C1103 25V 3300
D1113 ERA15-02
D1114 ERA15-02
R1107 4.7 (Fuse R) ERD2FCJ 4.7P
C1104 63V100
C1105 100V47
Q1101 2SA684 (-29V REG)
R1101 5600
D1116 MA4300-L
R1105 1800 ERG12ANJ 182
C1106 35V100
R1103 10K
R1104 6800
C1108 16V10
D1117 MA4140-M
D1118 MA165
D1119 MA165
R1106 4700
C1109 16V100
(NV-H70 EV)
L1101 VTQ0046 (NV-H70EG)
C4101 0.022
T4101 EIQ7QF012Q
C4102 16V10
Q4101 2SD639-R
C4103 4700P
L4101 100µ
CR4101 (0.01.15K)
AC CORD VJA0111: NV-H70EV VJA0326: NV-H70EG
C1107 16V10
D1115 MA4130-H
R1102 4700
P1103
P1101 (TO SYSTEM CONTROL)
REG -29V
AC 5.1V
NON SW 12V
P1102 (TO SYSTEM CONTROL)
MOTOR GND
UNREG 45V
MOTOR UNREG
POWER OFF
REG 12.3V
REG 6V
REG 5V
TUNER 12V
TUNER OFF
JP
UNREG 18V
UNREG 30V
7.2V
BP1105
BP1103
P4101 (TO FE HEAD)
FE HEAD
P4102 (TO SYSTEM CONTROL)
D.REC 12V
BP1107
IC1101 STK5335 (REGLATOR)
Tr1
Tr2
Tr3
Tr4
Tr5
TR6
Tr6
C1
C2
C3
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
D1
D2
REGULATOR C.B. (VJB01239)
P1507
Q1502 2SD1275 (12V REG)
Tr. C.B. (VJB01238)
BP1503
Q1504 2SD1275 (6V REG)
Tr. (2) C.B. (VJB00H26)
HEATER Tr. C.B. (VJB00E36)
P1506
C1501 0.001
Q1501 2SD1275 (12V REG)

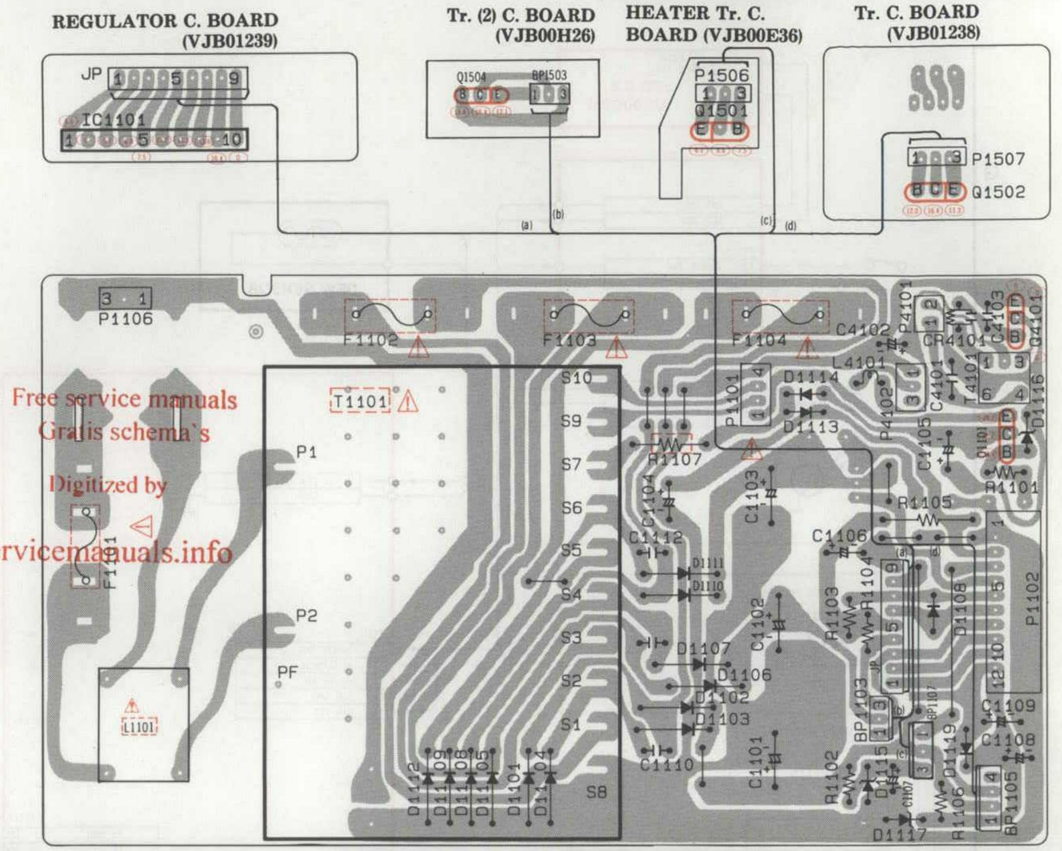
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

3-6. POWER TRANSFORMER CIRCUIT BOARD

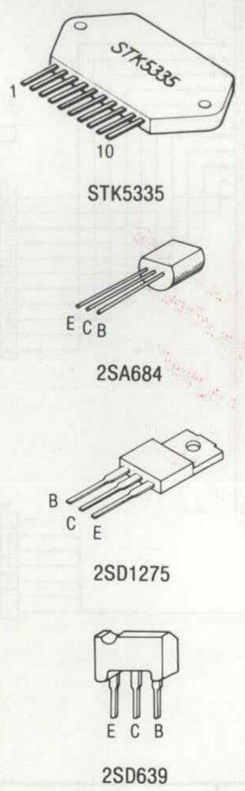
(VEP01248A: NV-H70EG)

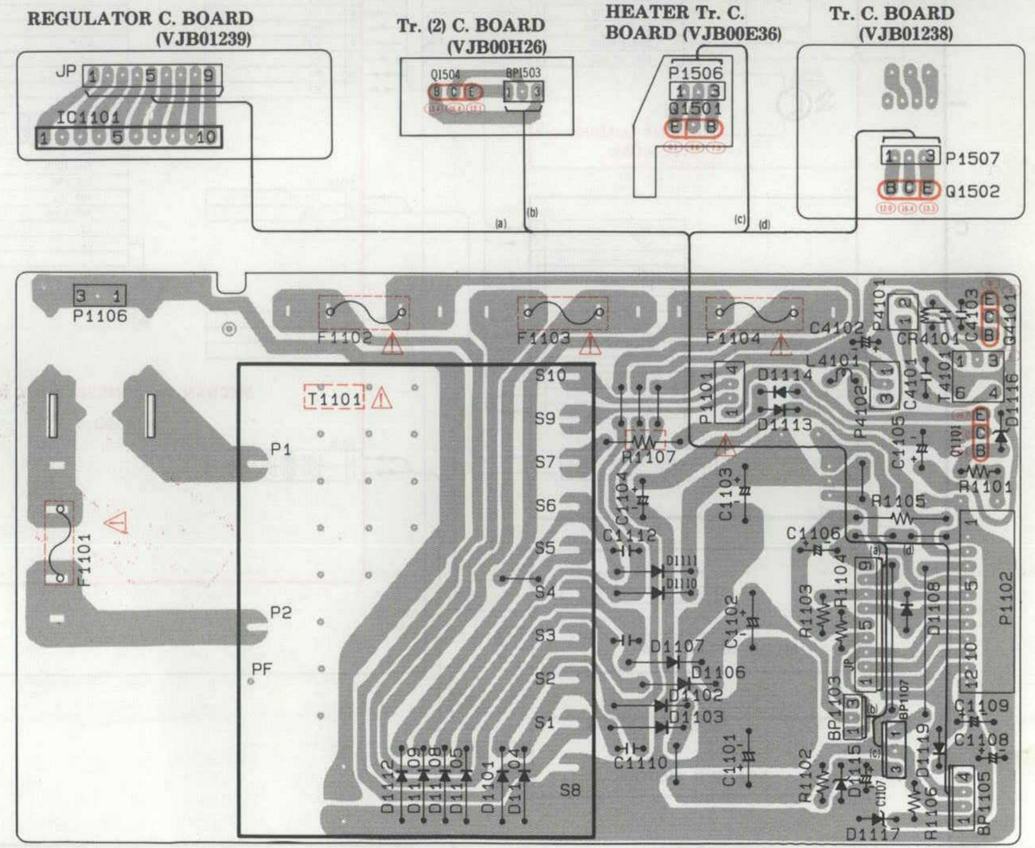

REGULATOR C. BOARD (VJB01239)
Tr. (2) C. BOARD (VJB00H26)
HEATER Tr. C. BOARD (VJB00E36)
Tr. C. BOARD (VJB01238)
JP
IC1101
P1506
Q1501
P1507
Q1502
P1106
F1102
F1103
F1104
T1101
P1
P2
PF
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
P1102
C1106
R1105

3-7. POWER TRANSFORMER CIRCUIT BOARD

(VEP01261A: NV-H70EV)

ICs & TRANSISTORS INFORMATION

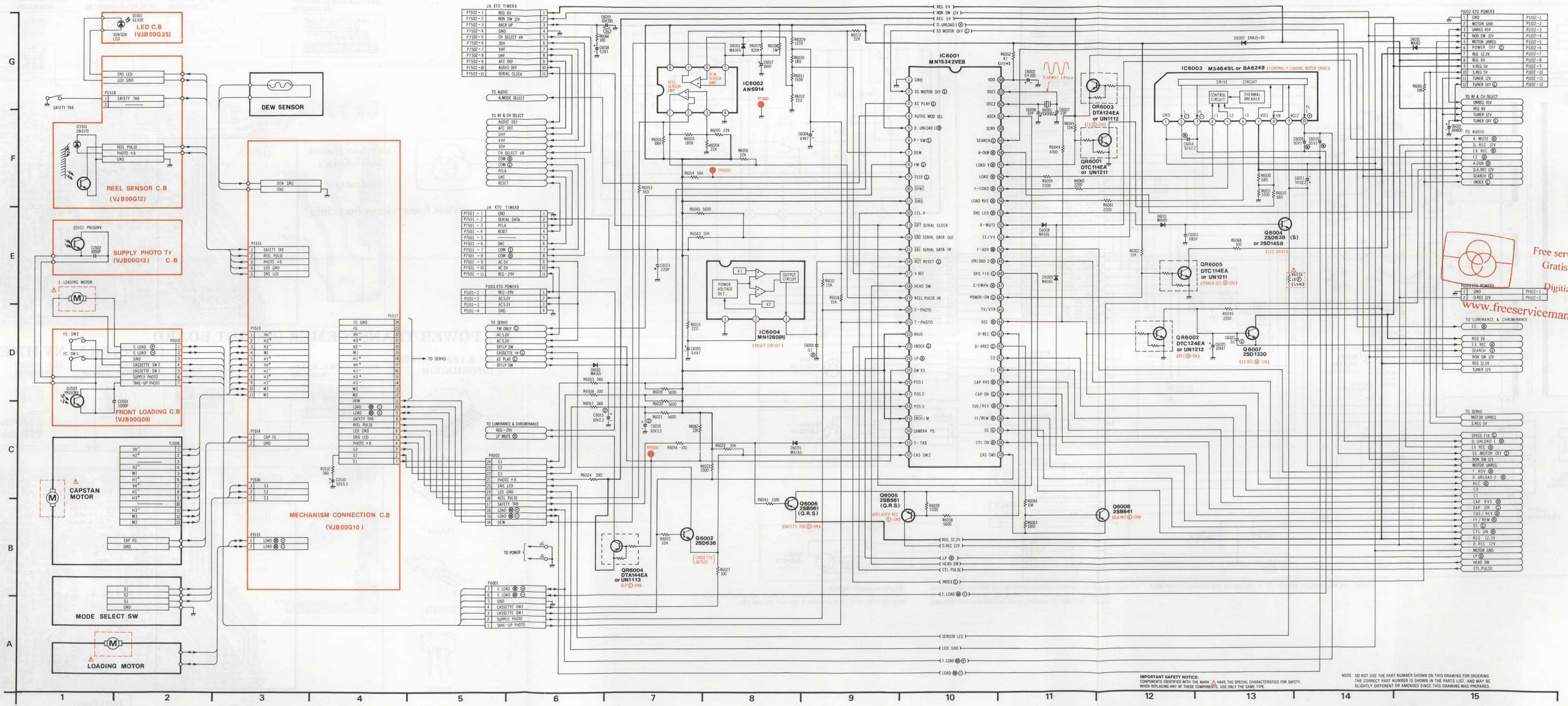

STK5335
1
10
STK5335
E C B
2SA684
B
C E
2SD1275
E C B
2SD639


REGULATOR C. BOARD (VJB01239)
Tr. (2) C. BOARD (VJB00H26)
HEATER Tr. C. BOARD (VJB00E36)
Tr. C. BOARD (VJB01238)
JP
IC1101
P1506
Q1501
P1507
Q1502
P1106
F1102
F1103
F1104
F1101
T1101
P1
P2
PF
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
P1102
C1106
R1105

Next Page:
SYSTEM CONTROL Section

4/17/2018

3-8. SYSTEM CONTROL SCHEMATIC DIAGRAM


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
LED C.B
(VJB00G23)
D1501 GL450
SENSOR LED
SAFETY TAB
P1518
REEL SENSOR C.B
(VJB00G12)
IC1501 ON2170
SUPPLY PHOTO Tr C.B
(VJB00G13)
Q1502 PN150NV
F. LOADING MOTOR
FRONT LOADING C.B
(VJB00G09)
Q1503 PN150NV
P1510
CAPSTAN MOTOR
PJ006
MODE SELECT SW
LOADING MOTOR
DEW SENSOR
MECHANISM CONNECTION C.B
(VJB00G10)
P1511
P1513
P1514
P1515
P1516
P1517
JB (TO TIMER)
JA (TO TIMER)
P3001 (TO POWER)
TO AUDIO
TO RF & CH SELECT
TO SERVO
TO LUMINANCE & CHROMINANCE
TO POWER
P6001
P6002
IC6002 AN6914
DEW SENSOR AMP
TP GND
TP6001
TP2008
IC6004 MN1280(R)
(RESET CIRCUIT)
POWER VOLTAGE DET.
OUTPUT CIRCUIT
IC6001 MN15342VEB
3.58MHz 2.8Vp-p
QR6003 DTA124EA or UN1112
QR6001 DTC114EA or UN1211
IC6003 M54649L or BA6248
(LOADING/F.LOADING MOTOR DRIVE)
DRIVE CIRCUIT
CONTROL CIRCUIT
THERMAL BREAKER
Q6004 2SD638 (S) or 2SD1458
(LED DRIVE)
QR6005 DTC114EA or UN1211
(POWER OFF Ⓛ ON)
QR6002 DTC124EA or UN1212
(REC Ⓗ ON)
Q6007 2SD1330
(EX.REC Ⓗ ON)
Q6006 2SB561 (Q.R.S)
(SAFETY TAB Ⓛ ON)
Q6005 2SB561 (Q.R.S)
(DELAYED REC Ⓛ ON)
Q6008 2SB641
(D.A.REC Ⓛ ON)
QR6004 DTA144EA or UN1113
(LP Ⓛ ON)
Q6002 2SD636
(CASSETTE DETECT)
P1002 (TO POWER)
P6003 (TO POWER)
TO RF & CH SELECT
TO AUDIO
TO LUMINANCE & CHROMINANCE
TO SERVO

SYSTEM CONTROL SCHEMATIC	
Transistor	
Q1502	E-1
Q1503	D-1
Q6002	B-8
Q6004	E-13
Q6005	B-9
Q6006	B-9
Q6007	D-13
Q6008	B-12
Transistor & Resistor	
QR6001	F-11
QR6002	D-12
QR6003	G-12
QR6004	B-7
QR6005	E-13
Integrated Circuit	
IC1501	F-1
IC6001	G-10
IC6002	G-8
IC6003	G-12
IC6004	D-8
Test Point	
TP2008	C-7
TP6001	F-8
TP GND	G-8
Connector	
P1001	E-5
P1002	G-15
P1510	D-2
P1511	E-3
P1513	D-3
P1514	C-3
P1515	B-3
P1516	C-3
P1517	D-4
P1518	G-1
P6001	B-5
P6002	C-5
P6003	E-15
PJ006	C-2
JA	E-5
JB	G-5

ADDRESS INFORMATION

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NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.
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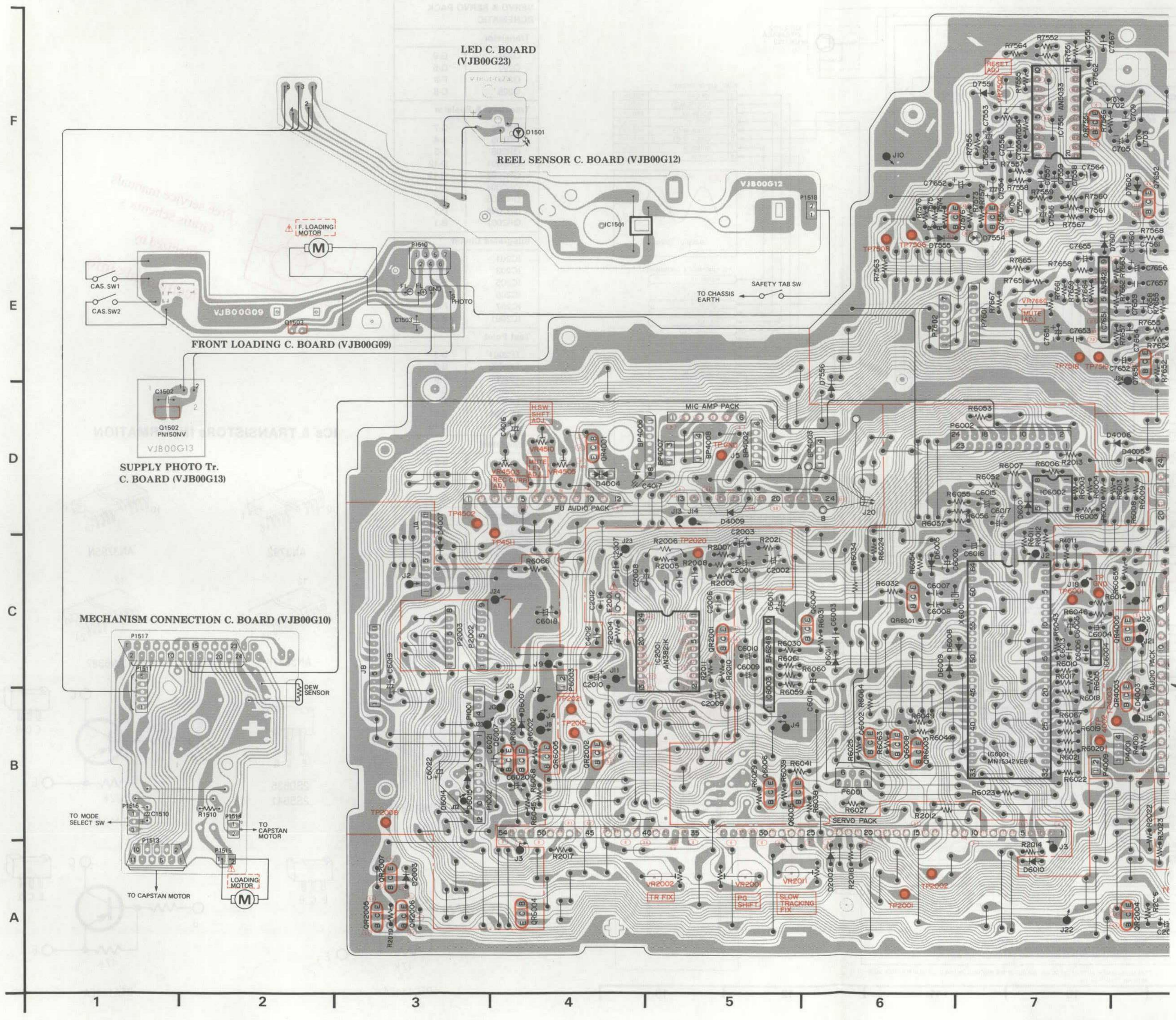
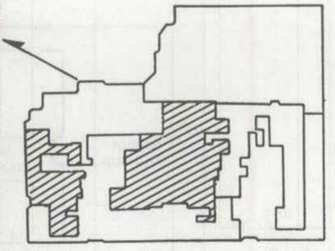
SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

3-9. SYSTEM CONTROL Section In Main Circuit Board (VEP03309E: NV-H70EG) (VEP03309F: NV-H70EV)

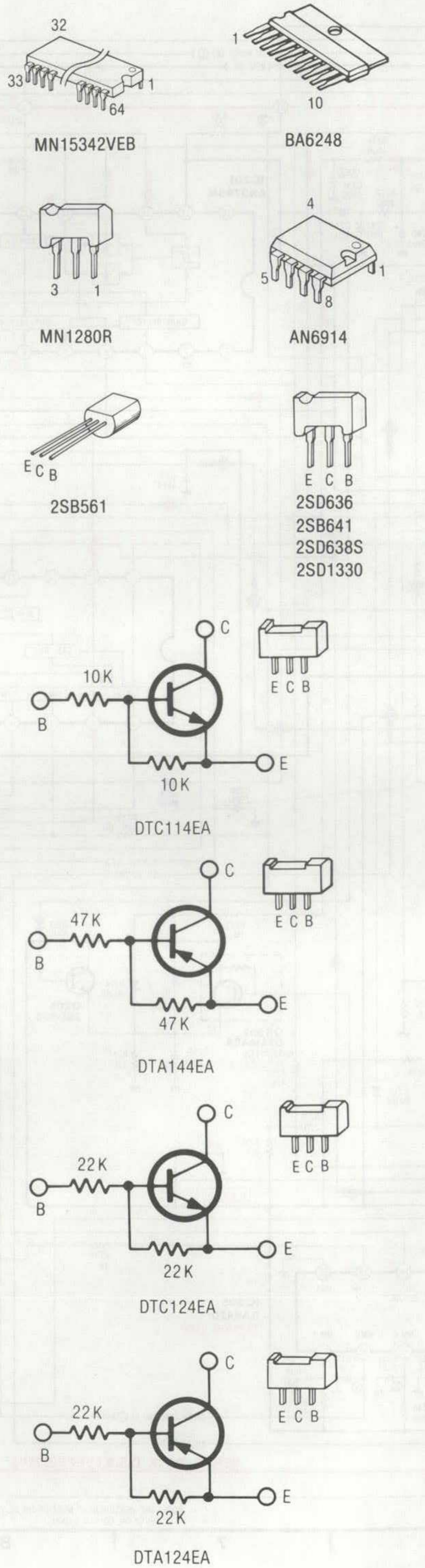

LED C. BOARD (VJB00G23)
REEL SENSOR C. BOARD (VJB00G12)
FRONT LOADING C. BOARD (VJB00G09)
SUPPLY PHOTO Tr. C. BOARD (VJB00G13)
MECHANISM CONNECTION C. BOARD (VJB00G10)
F. LOADING MOTOR
CAS. SW1
CAS. SW2
TO CHASSIS EARTH
SAFETY TAB SW
Q1502 PN150NV
D1501
IC1501
P1517
DEW SENSOR
TO MODE SELECT SW
TO CAPSTAN MOTOR
LOADING MOTOR
MIC AMP PACK
FU AUDIO PACK
SERVO PACK
IC6001 MN15342VEB
IC6002
IC6003
IC6004
TP2008
TP6001
TP GND
P6001
P6002
P6003
JA
JB
F
E
D
C
B
A
1
2
3
4
5
6
7

SYSTEM CONTROL SECTION	
Transistor	
Q1502	D-1
Q1503	E-2
Q6002	B-6
Q6004	C-6
Q6005	B-5
Q6006	B-5
Q6007	B-4
Q6008	B-6
Transistor & Resistor	
QR6001	C-6
QR6002	B-4
QR6003	B-6
QR6004	A-4
QR6005	B-4
Integrated Circuit	
IC1501	E-4
IC6001	B-7
IC6002	D-7
IC6003	D-5
IC6004	C-7
Test Point	
TP2008	B-3
TP6001	C-7
TP GND	C-7
Connector	
P1001	B-3
P1002	B-3
P1510	E-3
P1511	C-1
P1513	A-1
P1514	B-2
P1515	A-2
P1516	B-1
P1517	C-1
P1518	F-6
P6001	B-6
P6002	D-7
P6003	C-4
JA	D-3
JB	C-3

ADDRESS INFORMATION



ICs & TRANSISTORs INFORMATION


32
33
1
64
MN15342VEB
1
10
BA6248
3
1
MN1280R
4
5
8
1
AN6914
E C B
2SB561
E C B
2SD636
2SB641
2SD638S
2SD1330
C
10K
B
10K
E
E C B
DTC114EA
C
47K
B
47K
E
E C B
DTA144EA
C
22K
B
22K
E
E C B
DTC124EA
C
22K
B
22K
E
E C B
DTA124EA

SYSTEM CONTROL ICs VOLTAGE CHART

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	0	5.1	0	0	5.2	0	4.8	5.2	3.9	5.4	0.1	4.8	4.9	4.9	5.4	3.0	5.0	0	3.3
PLAY	0	5.2	5.1	0	0	5.2	0	4.8	5.2	3.9	5.4	0.2	4.8	4.9	4.9	5.3	3.0	2.5	2.5	3.3
REC	0	5.2	5.1	0	0	5.1	0	0.1	5.2	3.9	5.3	2.7	4.8	4.9	4.8	5.3	3.0	2.5	2.5	3.3
F.F	0	0.1	5.1	0	0	5.2	0	4.7	5.2	3.9	5.4	0.1	4.8	4.9	4.9	5.3	3.0	5.0	2.7	3.3
REW	0	0.1	5.1	0	0	5.2	0	4.7	5.2	3.9	5.4	0.1	4.8	4.9	4.9	5.3	3.0	5.0	2.7	3.3

REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	3.3	5.4	5.1	0.1	5.3	5.3	0.1	5.3	5.4	5.2	1.3	0.8	4.5	0	5.2	0	0	5.2	0	0
PLAY	3.3	5.4	5.1	0.1	5.3	5.3	5.3	0.1	5.4	5.2	1.3	0.8	4.5	5.2	5.2	0	0	0	0	0
REC	3.3	5.3	5.0	0.1	5.3	5.3	5.3	0.1	5.3	5.1	1.3	0.8	4.5	5.2	5.2	0	0	0	0	0
F.F	3.3	5.3	5.0	0.1	5.3	0.1	5.3	0.1	5.4	5.2	1.3	0.8	4.5	0	5.2	5.1	0	0	0	5.2
REW	3.3	5.3	5.0	0.1	5.3	0.1	5.3	0.1	5.4	5.1	1.3	0.8	4.5	0	5.1	5.1	0	0	5.1	5.1

REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	0	12.3	12.3	0	0.5	0.1	0	5.2	0	0	0	0	0	0	0	0	5.0	0	5.1	5.2
PLAY	5.2	12.2	12.3	0.1	0	0.1	0	5.2	0	0	5.2	0	0.6	0	0	0	5.0	0	5.2	5.2
REC	5.2	0.2	0.3	4.2	0.7	0.1	0	5.2	0	0	0.1	0	0.6	0	0	0	5.0	0	5.2	5.2
F.F	5.2	12.3	12.3	0.2	0.7	0.1	0	5.2	0	0	0	0	0.6	0	0	0	5.0	0	5.2	5.2
REW	5.1	12.3	12.3	0.2	0.4	0.1	0	5.1	0	0	0	0	0.6	0	0	0	5.0	0	5.1	5.2

REF. NO.	IC6001			
MODE	61	62	63	64
STOP	4.8	2.0	2.2	5.2
PLAY	4.8	2.0	2.2	5.2
REC	4.8	2.0	2.2	5.2
F.F	4.8	2.0	2.2	5.2
REW	4.8	2.0	2.2	5.2

REF. NO.	IC6002							
MODE	1	2	3	4	5	6	7	8
STOP	5.1	0.2	2.8	0	0	0.4	0	5.3
PLAY	2.5	2.5	2.7	0	0	0.4	0	5.4
REC	2.5	2.5	2.7	0	0	0.4	0	5.4
F.F	2.7	2.4	2.7	0	0	0.4	0	5.3
REW	2.8	2.3	2.7	0	0	0.4	0	5.4

REF. NO.	IC6003									
MODE	1	2	3	4	5	6	7	8	9	10
STOP	0	0.2	0.2	0	0	0	12.3	5.6	16.1	0.2
PLAY	0	0.2	0.2	0	0	0	12.3	5.6	14.4	0.2
REC	0	0.2	0.2	0	0	0	12.2	5.6	14.4	0.2
F.F	0	0.2	0.2	0	0	0	12.3	5.6	14.8	0.2
REW	0	0.2	0.2	0	0	0	12.3	5.6	15.0	0.2

REF. NO.	IC6004		
MODE	1	2	3
STOP	5.3	5.3	0
PLAY	5.3	5.3	0
REC	5.3	5.3	0
F.F	5.3	5.3	0
REW	5.3	5.3	0

SYSTEM CONTROL TRANSISTORs VOLTAGE CHART

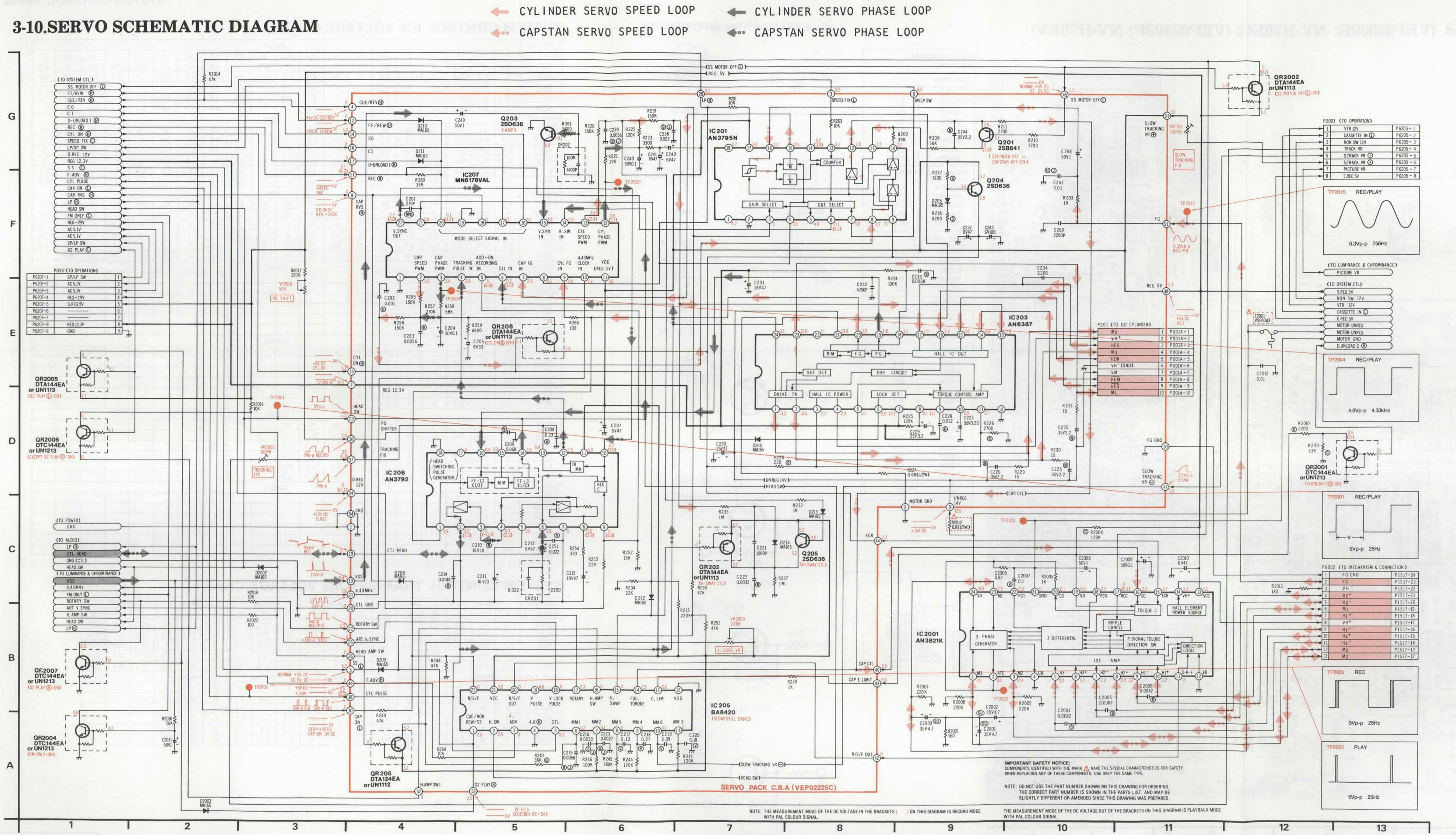
REF. NO.	Q6002			Q6004			Q6005			Q6006			Q6007			Q6008		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0.8	0.8	1.5	0.1	16.3	0.3	12.3	0	12.3	12.3	12.3	11.5	5.0	5.1	5.8	12.3	0.2	12.3
PLAY	0.8	0.8	1.5	1.1	14.5	1.2	12.3	0	12.3	12.3	12.3	11.5	5.0	5.1	5.8	12.3	0.3	12.3
REC	0.8	0.8	1.5	1.1	14.3	1.2	12.2	12.1	11.4	12.2	12.2	11.4	0	5.1	0	12.1	12.0	11.4
F.F	0.8	0.8	1.5	1.1	14.8	1.2	12.3	0	12.3	12.3	12.3	11.5	5.0	5.1	5.8	12.3	0.3	12.3
REW	0.8	0.8	1.5	1.1	14.7	1.2	12.3	0	12.3	12.3	12.3	11.5	5.0	5.1	5.8	12.3	0.3	12.3

REF. NO.	QR6001			QR6002			QR6003			QR6004			QR6005		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	5.0	0	5.8	0.1	5.0	5.0	0	5.1	0.8	5.3	0	13.3	0.1
PLAY	0	0	5.0	0	5.8	0.1	5.1	0	5.2	5.1	0.7	5.3	0	13.3	0.1
REC	0	0	5.0	0	0	4.2	5.1	5.0	0.1	5.1	0.7	5.3	0	13.3	0.1
F.F	0	0	5.0	0	5.8	0.2	5.1	5.0	0	5.1	0.4	5.3	0	13.3	0.1
REW	0	0	5.0	0	5.8	0.2	5.0	5.0	0	5.1	0.4	5.3	0	13.3	0.1

Next Page:
SERVO Section

4/17/2018

3-10.SERVO SCHEMATIC DIAGRAM


CYLINDER SERVO SPEED LOOP
CAPSTAN SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
CAPSTAN SERVO PHASE LOOP
IC201 AN3795N
IC203 AN6387
IC205 BA8420 (SLOW/STILL DRIVE)
IC206 AN3792
IC207 MN6178VAL
IC2001 AN3821K
Q201 2SB641
Q203 2SD636 (AMP)
Q204 2SD636
Q205 2SD636
QR202 DTA144EA or UN1113
QR205 DTA124EA or UN1112
QR208 DTA144EA or UN1113
QR2001 DTC144EA or UN1213
QR2002 DTA144EA or UN1113
QR2004 DTC144EA or UN1213
QR2005 DTA144EA or UN1113
QR2006 DTC144EA or UN1213
QR2007 DTC144EA or UN1213
P2002 (TO OPERATION)
P2003 (TO OPERATION)
P201 (TO DD CYLINDER)
P6002 (TO MECHANISM & CONNECTION)
(TO SYSTEM CTL)
(TO LUMINANCE & CHROMINANCE)
(TO POWER)
(TO AUDIO)
TP2015 REC/PLAY 0.3Vp-p 756Hz
TP2004 REC/PLAY 4.8Vp-p 4.33kHz
TP2001 REC/PLAY 5Vp-p 25Hz
TP2002 REC 5Vp-p 25Hz
TP2002 PLAY 5Vp-p 25Hz
SERVO PACK C.B.A (VEP02225C)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13

IMPORTANT SAFETY NOTICE:
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NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

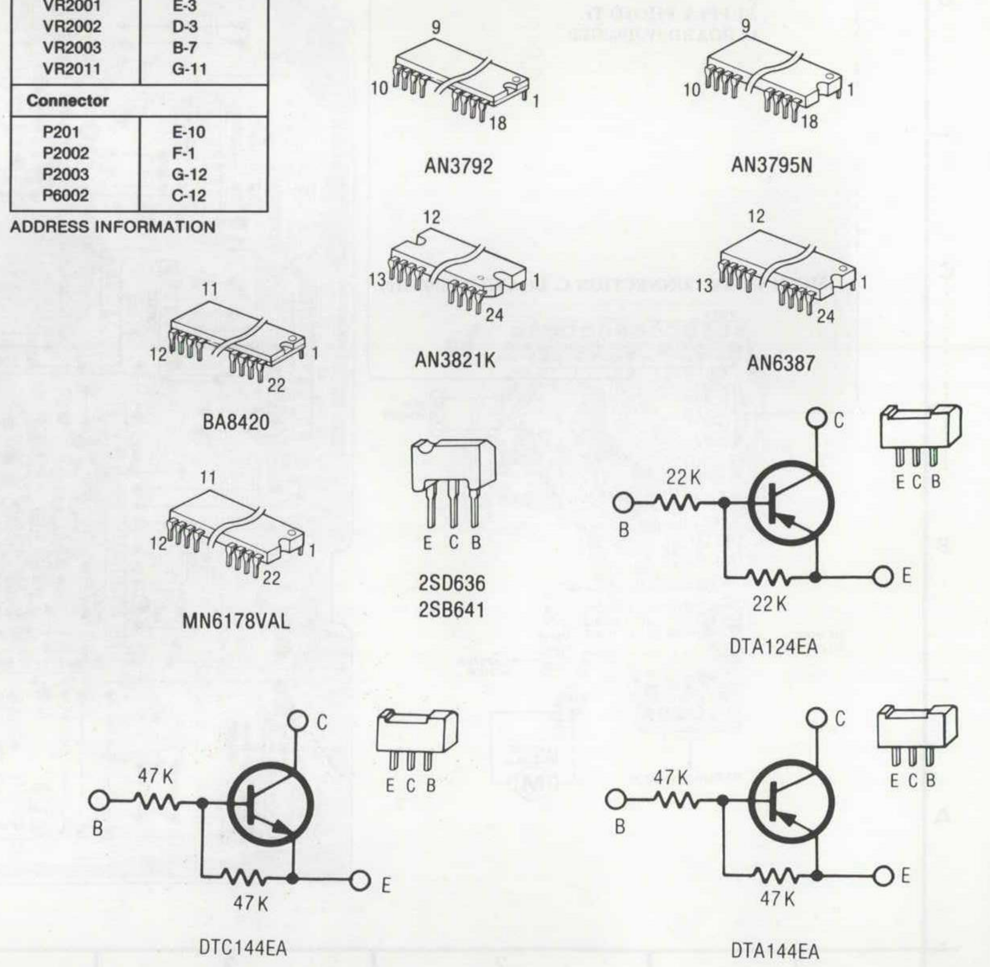
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.

THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

SERVO & SERVO PACK SCHEMATIC	
Transistor	
Q201	G-9
Q203	G-5
Q204	F-9
Q205	C-8
Transistor & Resistor	
QR202	C-7
QR205	A-4
QR208	E-5
QR2001	D-12
QR2002	G-12
QR2004	A-1
QR2005	E-1
QR2006	D-1
QR2007	B-1
Integrated Circuit	
IC201	G-7
IC203	E-10
IC205	B-7
IC206	D-4
IC207	F-5
IC2001	B-9
Test Point	
TP2001	D-3
TP2002	B-3
TP2003	F-6
TP2004	E-4
TP2015	F-11
TP2020	B-9
TP2021	C-10
Adjustment	
VR2001	E-3
VR2002	D-3
VR2003	B-7
VR2011	G-11
Connector	
P201	E-10
P2002	F-1
P2003	G-12
P6002	C-12

ADDRESS INFORMATION

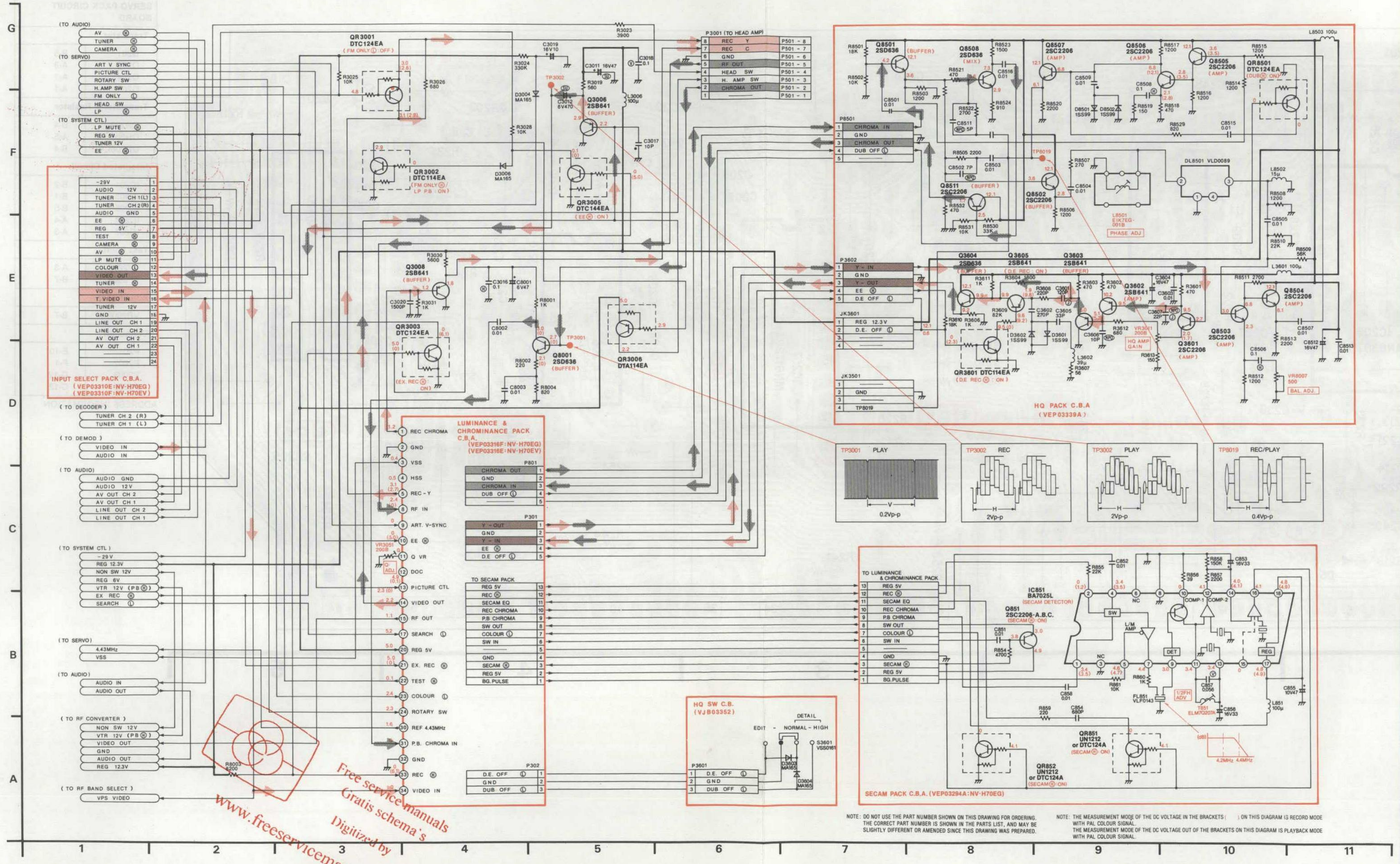
ICs & TRANSISTORs INFORMATION


AN3792
AN3795N
AN3821K
AN6387
BA8420
MN6178VAL
2SD636
2SB641
E C B
DTA124EA
22K
DTC144EA
DTA144EA
47K
B
C
E

4/17/2018

3-13. LUMINANCE & CHROMINANCE SCHEMATIC DIAGRAM

← MAIN SIGNAL PATH IN REC MODE ← MAIN SIGNAL PATH IN PLAYBACK MODE


INPUT SELECT PACK C.B.A.
HQ PACK C.B.A (VEP0329A)
LUMINANCE & CHROMINANCE PACK C.B.A.
SECAM PACK C.B.A.
HQ SW C.B.
TP3001 PLAY
TP3002 REC
TP8019 REC/PLAY
0.2Vp-p
2Vp-p
0.4Vp-p

Back Page: SERVO Section

LUMINANCE & CHROMINANCE SCHEMATIC	
Transistor	
Q851	
Q3006	F-5
Q3008	E-4
Q3601	D-10
Q3602	E-9
Q3603	E-9
Q3604	E-8
Q3605	E-8
Q8001	D-5
Q8501	G-7
Q8502	F-9
Q8503	E-10
Q8504	E-11
Q8505	G-10
Q8506	G-9
Q8507	G-9
Q8508	G-8
Q8511	F-8
Transistor & Resistor	
QR851	
QR852	
QR3001	G-3
QR3002	F-4
QR3003	E-4
QR3005	F-5
QR3006	D-5
QR3601	D-8
QR8501	G-10
Integrated Circuit	
IC851	
Test Point	
TP3001	E-5
TP3002	G-5
TP8019	F-9
Adjustment	
VR3011	E-9
VR3051	C-3
VR8007	D-11
L8501	F-9
T851	
Connector	
P301	C-5
P302	A-5
P801	D-5
P3001	G-6
P3601	A-6
P3602	E-7
P8501	F-7
JK3501	D-7
JK3601	E-7

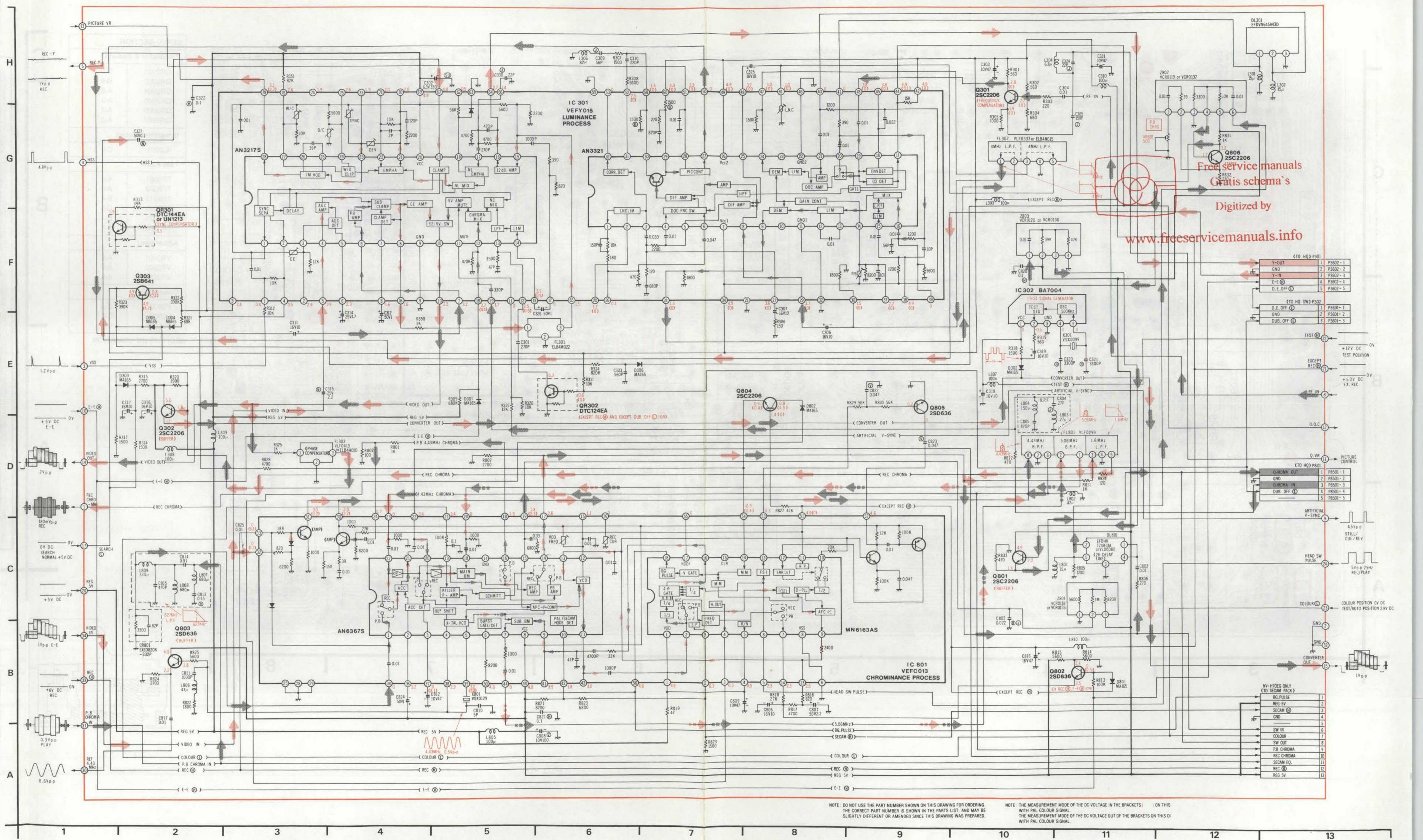
ADDRESS INFORMATION

LUMINANCE & CHROMINANCE PACK SCHEMATIC	
Transistor	
Q301	H-10
Q302	D-2
Q303	F-2
Q801	C-10
Q802	B-11
Q803	B-2
Q804	E-8
Q805	E-9
Q806	G-12
Transistor & Resistor	
QR301	F-2
QR302	E-6
Integrated Circuit	
IC301	H-6
IC302	F-10
IC801	B-9
Adjustment	
VR801	G-11
Connector	
P301	F-13
P302	F-13
P801	D-13

ADDRESS INFORMATION

3-14. LUMINANCE & CHROMINANCE PACK SCHEMATIC DIAGRAM

← MAIN SIGNAL PATH IN REC MODE
← MAIN SIGNAL PATH IN PLAYBACK MODE
◄◄ 5.06MHz PHASE ROTATIONAL SIGNAL IN REC MODE
◄◄ 5.06MHz PHASE ROTATIONAL SIGNAL IN PLAYBACK MODE


REC-Y
1Vp-p REC
4.8Vp-p
1.2Vp-p
+5V DC E-E
2Vp-p
180mVp-p REC
0V DC SEARCH NORMAL
+5V DC
1Vp-p E-E
+6V DC REC
0.3Vp-p PLAY
0.6Vp-p
IC 301 VEFC015 LUMINANCE PROCESS
AN3217S
AN3321
IC302 BA7004
AN6367S
MN6163AS
IC 801 VEFC013 CHROMINANCE PROCESS

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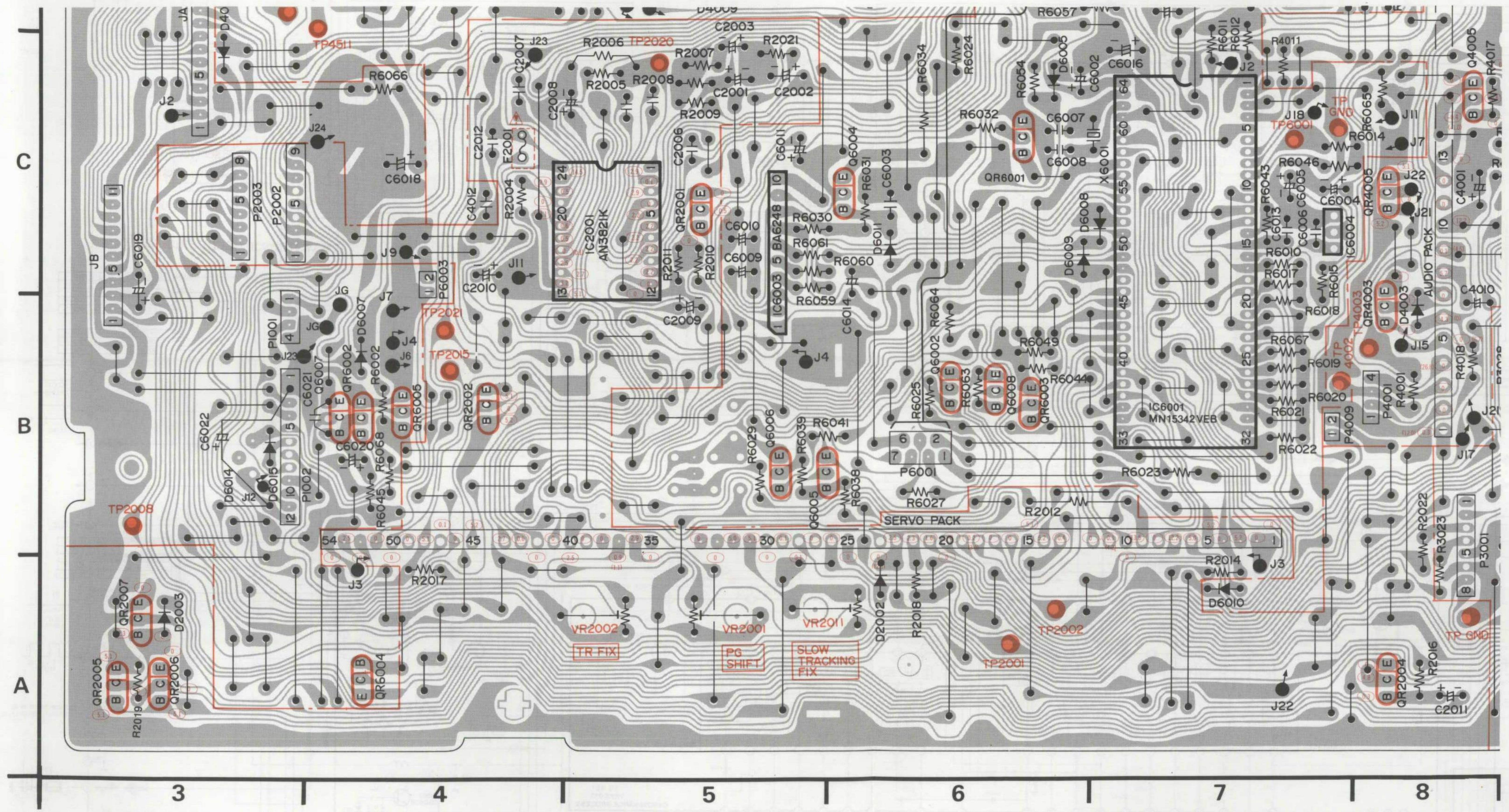
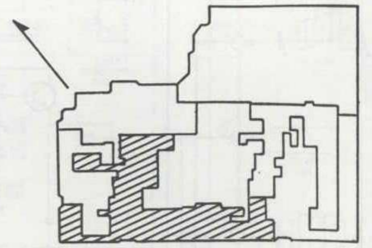
3-11. SERVO Section In Main Circuit Board (VEP03309E: NV-H70EG) (VEP03309F: NV-H70EV)

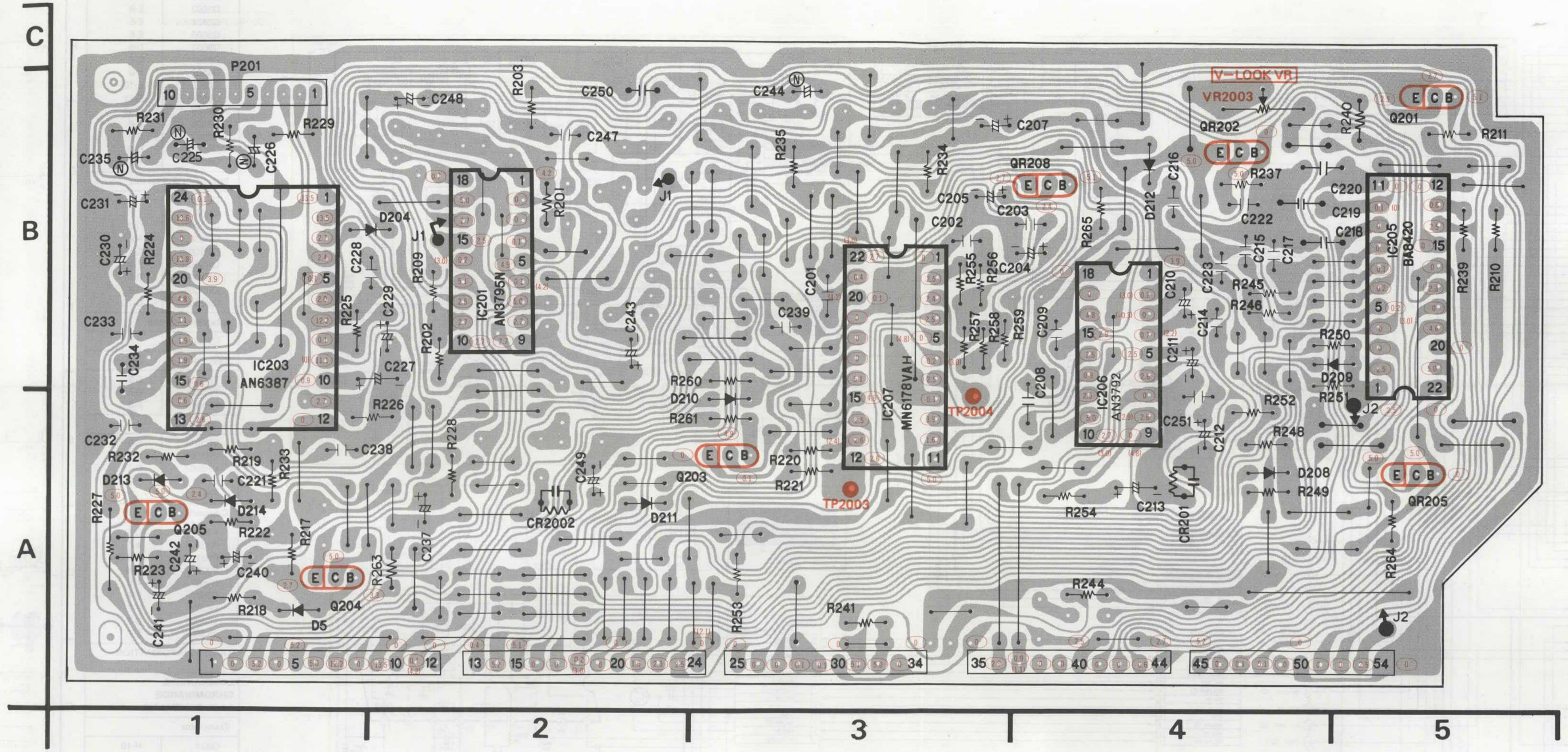

C
B
A
3
4
5
6
7
8
IC2001 AN3821K
IC6001 MN15342VEB
SERVO PACK
VR2002 TR.FIX
VR2001 PG SHIFT
VR2011 SLOW TRACKING FIX
TP2001
TP2002
TP2015
TP2020
TP2021
TP GND
P2002
P2003
P6001
J2
J3
J22



SERVO SECTION	
Transistor & Resistor	
QR2001	C-5
QR2002	B-4
QR2004	A-8
QR2005	A-3
QR2006	A-3
QR2007	A-3
Integrated Circuit	
IC2001	C-5
Test Point	
TP2001	A-6
TP2002	A-6
TP2015	B-4
TP2020	C-5
TP2021	B-4
TP GND	A-8
Adjustment	
VR2001	A-5
VR2002	A-5
VR2011	A-5
Connector	
P2002	C-3
P2003	C-3
P6002	D-7

ADDRESS INFORMATION

3-12. SERVO PACK CIRCUIT BOARD (VEP02225C)

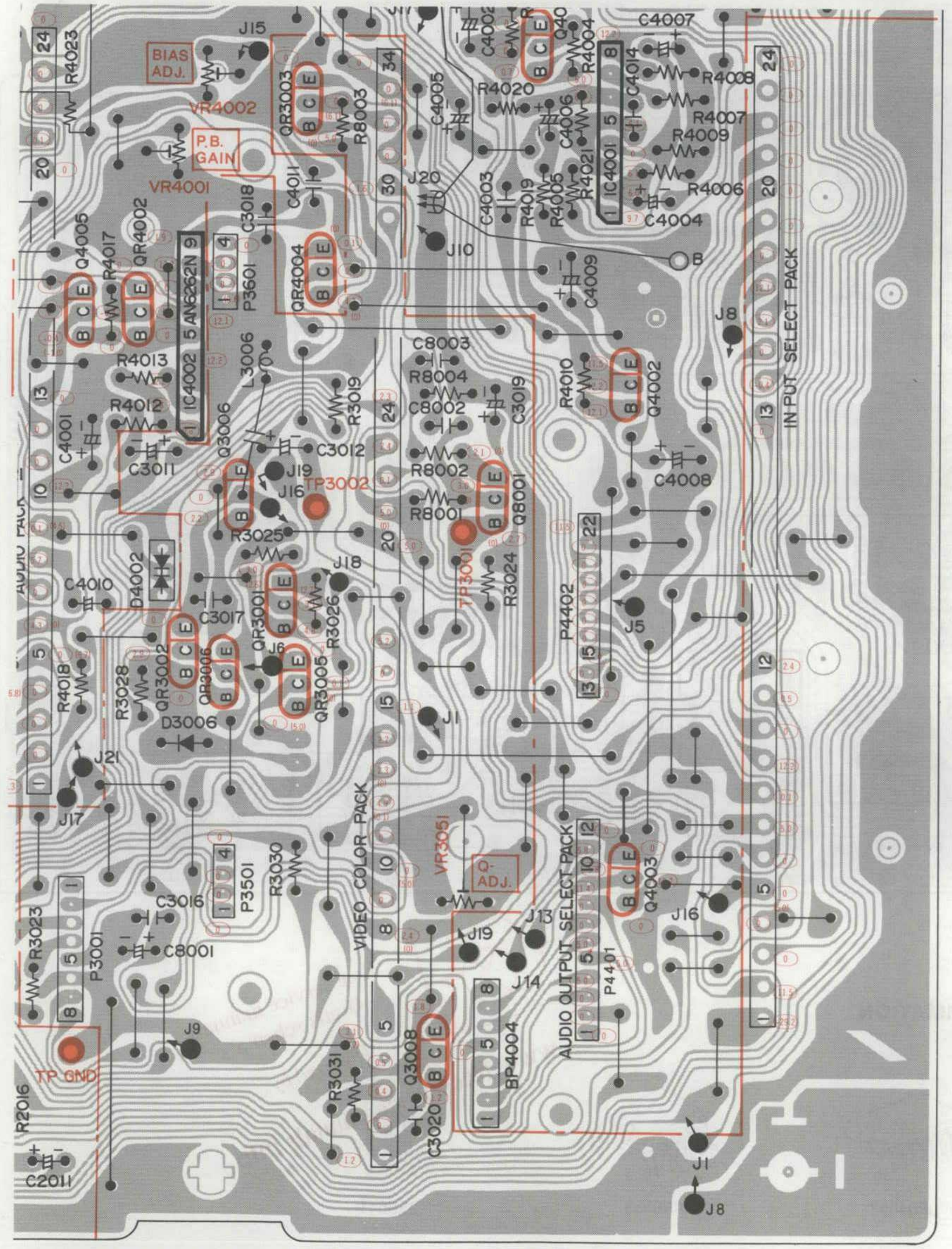

C
B
A
1
2
3
4
5
P201
IC203 AN6387
IC201 AN3795N
IC207 MN6178VAH
IC206 AN3792
IC205 BA9420
V. LOCK VR
VR2003
TP2003
TP2004
J1
J2

SERVO PACK CIRCUIT BOARD	
Transistor	
Q201	B-5
Q203	A-3
Q204	A-1
Q205	A-1
Transistor & Resistor	
QR202	B-4
QR205	A-5
QR208	B-4
Integrated Circuit	
IC201	B-2
IC203	B-1
IC205	B-5
IC206	A-4
IC207	A-3
Test Point	
TP2003	A-3
TP2004	B-7
Adjustment	
VR2003	B-7
Connector	
P201	E-10
P2002	F-1
P2003	G-12
P6002	C-12

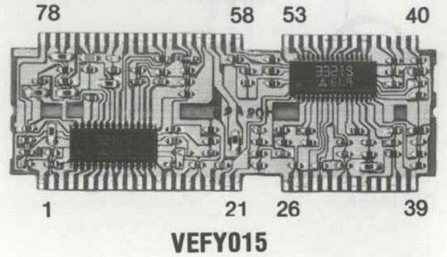
ADDRESS INFORMATION

4/17/2018

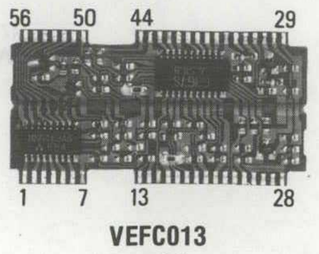
3-15. LUMINANCE & CHROMINANCE Section In Main Circuit Board (VEP03309E: NV-H70EG) (VEP03309F: NV-H70EV)


BIAS ADJ.
P.B. GAIN
VR4001
VR4002
TP3002
TP GND
VR3051
Q ADJ.
AUDIO PACK
VIDEO COLOR PACK
AUDIO OUTPUT SELECT PACK
INPUT SELECT PACK

ICs & TRANSISTORs INFORMATION


78
58
53
40
1
21
26
39

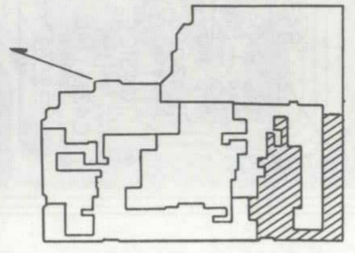
VEFY015


56
50
44
29
1
7
13
28

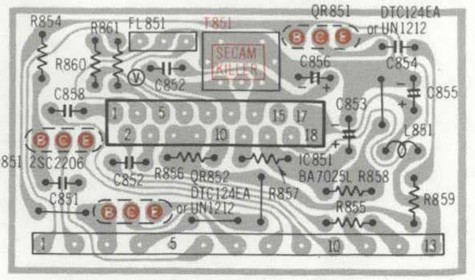
VEFC013

LUMINANCE & CHROMINANCE PACK CIRCUIT BOARD	
Transistor	
Q301	A-1
Q302	A-1
Q303	A-1
Q801	B-3
Q802	A-2
Q803	A-4
Q804	A-2
Q805	A-3
Q806	B-3
Transistor & Resistor	
QR301	A-1
QR302	B-1
Integrated Circuit	
IC301	B-2
IC302	A-2
IC801	A-3
Adjustment	
VR801	B-4
Connector	
P301	B-2
P302	B-1
P801	B-3

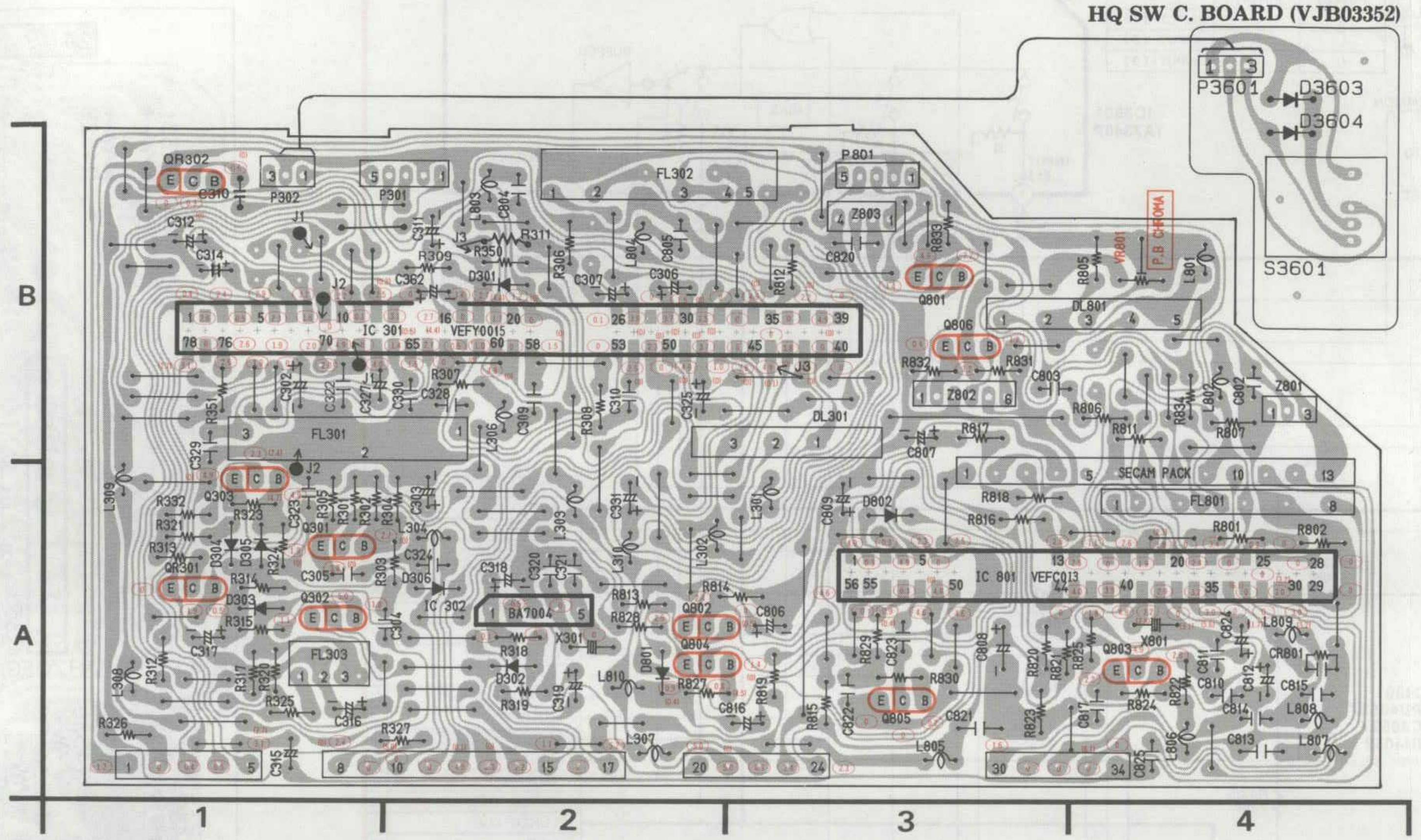
ADDRESS INFORMATION



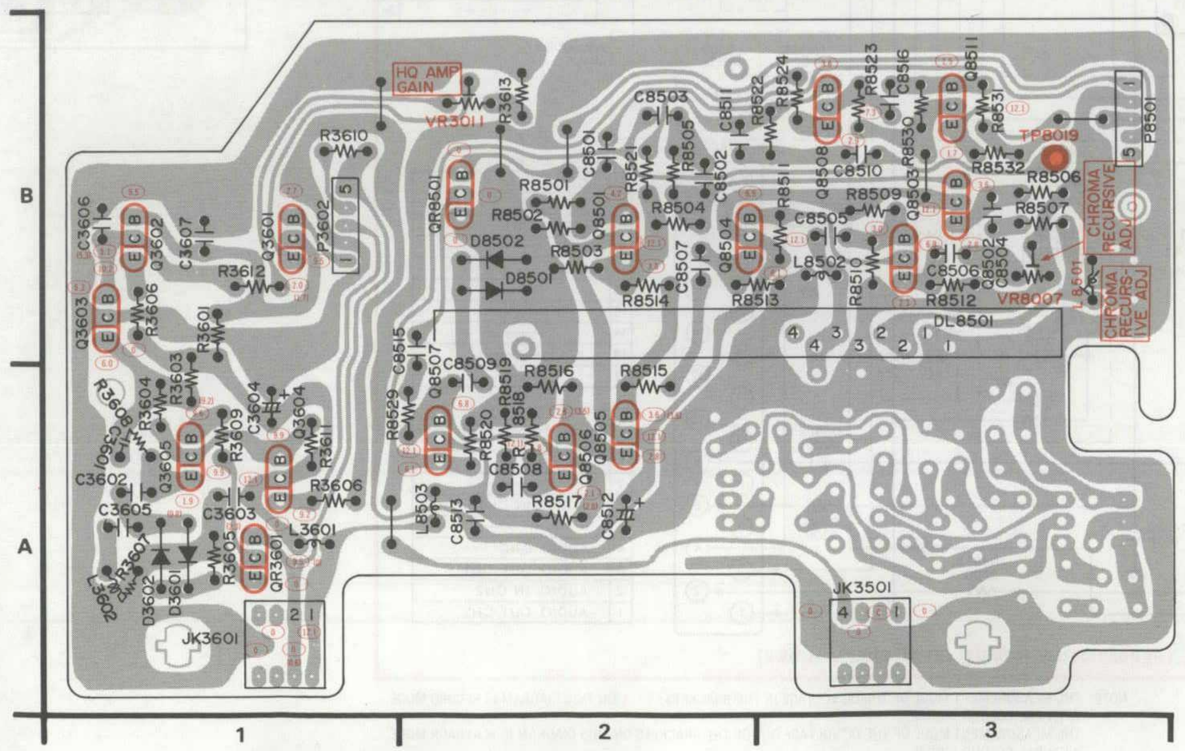
3-16. SECAM PACK CIRCUIT BOARD (VEP03294A: NV-H70EG)


R864
FL851
R860
C859
C855
C853
IC851
BA7025L
Q851
2SC2206
Q852
DTC124EA
or UN1212
DTC124EA
or UN1212
SECAM ADJ.
R858
R859
C851

3-17. LUMINANCE & CHROMINANCE PACK CIRCUIT BOARD (VEP03316E: NV-H70EV) (VEP03316F: NV-H70EG)


HQ SW C. BOARD (VJB03352)
P3601
D3603
D3604
S3601
B
A
1
2
3
4
IC 301
VEFY015
IC 801
VEFC013
IC 302
BA7004
P301
P302
P801
SECAM PACK
VR801

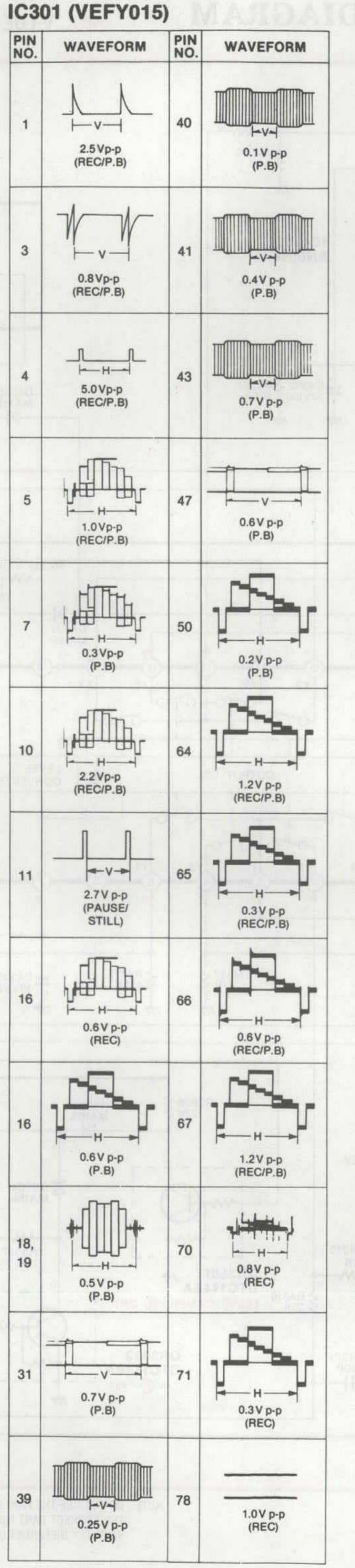
3-18. HQ PACK CIRCUIT BOARD (VEP03339A)


HQ AMP GAIN
VR3011
TP8019
VR8007
CHROMA RECURSIVE ADJ.
P8501
JK3501
JK3601
B
A
1
2
3

HQ PACK CIRCUIT BOARD	
Transistor	
Q3601	B-1
Q3602	B-1
Q3603	B-1
Q3604	A-1
Q3605	A-1
Q8501	B-2
Q8502	B-3
Q8503	B-3
Q8504	B-2
Q8505	A-2
Q8506	A-2
Q8507	A-2
Q8508	B-3
Q8511	B-3
Transistor & Resistor	
QR3601	A-1
QR8501	B-2
Test Point	
TP8019	B-3
Adjustment	
VR3011	A-2
VR8007	B-3
Connector	
P3601	A-6
P3602	B-1
P8501	B-3
JK3501	A-3
JK3601	A-1

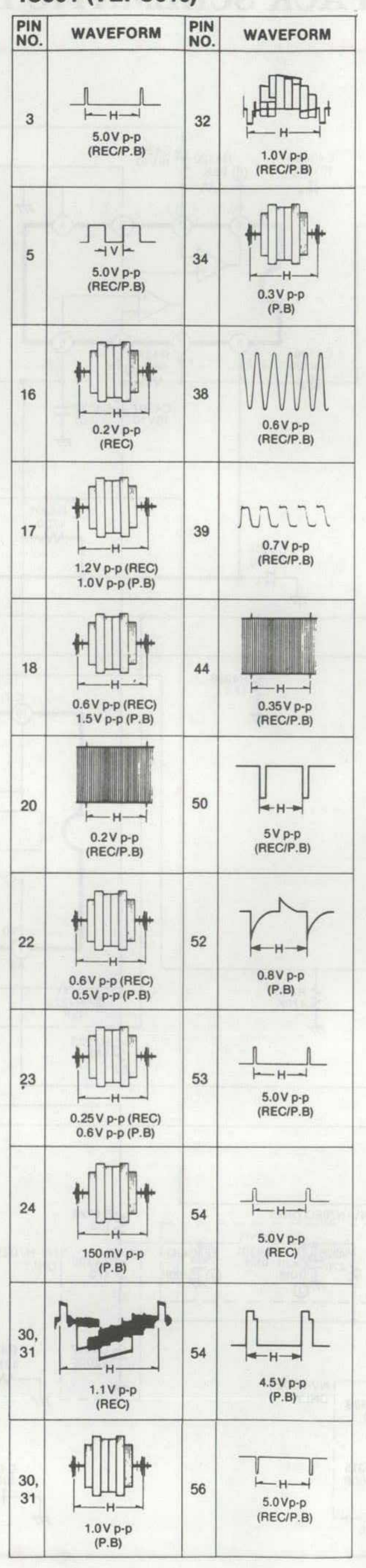
ADDRESS INFORMATION

IC301 (VEFY015)



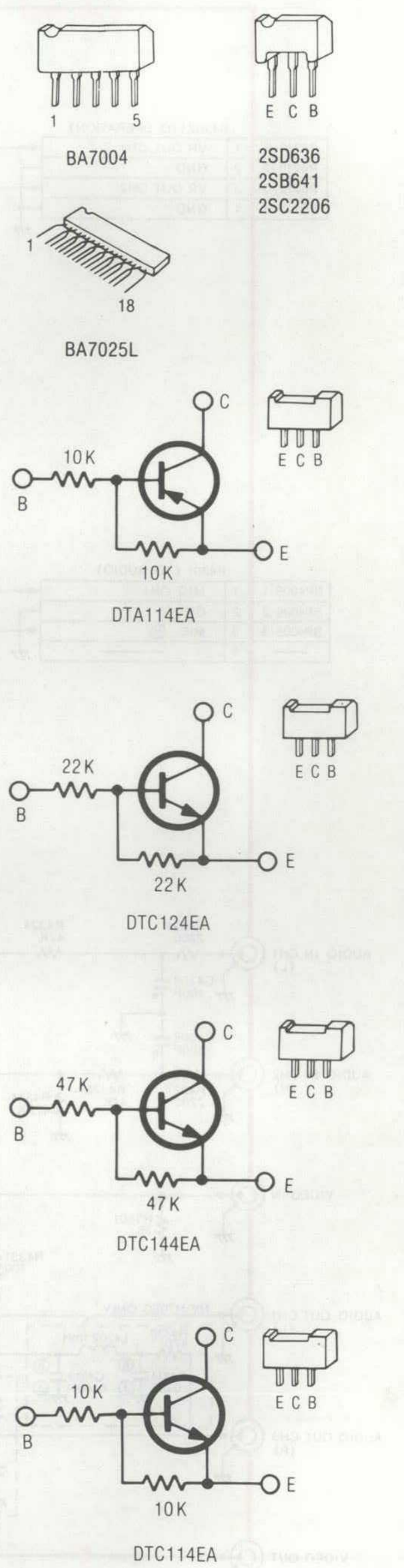
PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
1	V 2.5 Vp-p (REC/P.B)	40	V 0.1 V p-p (P.B)
3	V 0.8 Vp-p (REC/P.B)	41	V 0.4 V p-p (P.B)
4	H 5.0 Vp-p (REC/P.B)	43	V 0.7 V p-p (P.B)
5	H 1.0 Vp-p (REC/P.B)	47	V 0.6 V p-p (P.B)
7	H 0.3 Vp-p (P.B)	50	H 0.2 V p-p (P.B)
10	H 2.2 Vp-p (REC/P.B)	64	H 1.2 V p-p (REC/P.B)
11	V 2.7 V p-p (PAUSE/ STILL)	65	H 0.3 V p-p (REC/P.B)
16	H 0.6 V p-p (REC)	66	H 0.6 V p-p (REC/P.B)
16	H 0.6 V p-p (P.B)	67	H 1.2 V p-p (REC/P.B)
18, 19	H 0.5 V p-p (P.B)	70	H 0.8 V p-p (REC)
31	V 0.7 V p-p (P.B)	71	H 0.3 V p-p (REC)
39	V 0.25 V p-p (P.B)	78	1.0 V p-p (REC)

IC801 (VEFC013)



PIN NO.	WAVEFORM	PIN NO.	WAVEFORM
3	H 5.0 V p-p (REC/P.B)	32	H 1.0 V p-p (REC/P.B)
5	V 5.0 V p-p (REC/P.B)	34	H 0.3 V p-p (P.B)
16	H 0.2 V p-p (REC)	38	0.6 V p-p (REC/P.B)
17	H 1.2 V p-p (REC) 1.0 V p-p (P.B)	39	0.7 V p-p (REC/P.B)
18	H 0.6 V p-p (REC) 1.5 V p-p (P.B)	44	H 0.35 V p-p (REC/P.B)
20	H 0.2 V p-p (REC/P.B)	50	H 5 V p-p (REC/P.B)
22	H 0.6 V p-p (REC) 0.5 V p-p (P.B)	52	H 0.8 V p-p (P.B)
23	H 0.25 V p-p (REC) 0.6 V p-p (P.B)	53	H 5.0 V p-p (REC/P.B)
24	H 150 mV p-p (P.B)	54	H 5.0 V p-p (REC)
30, 31	H 1.1 V p-p (REC)	54	H 4.5 V p-p (P.B)
30, 31	H 1.0 V p-p (P.B)	56	H 5.0 Vp-p (REC/P.B)

ICs & TRANSISTORs INFORMATION

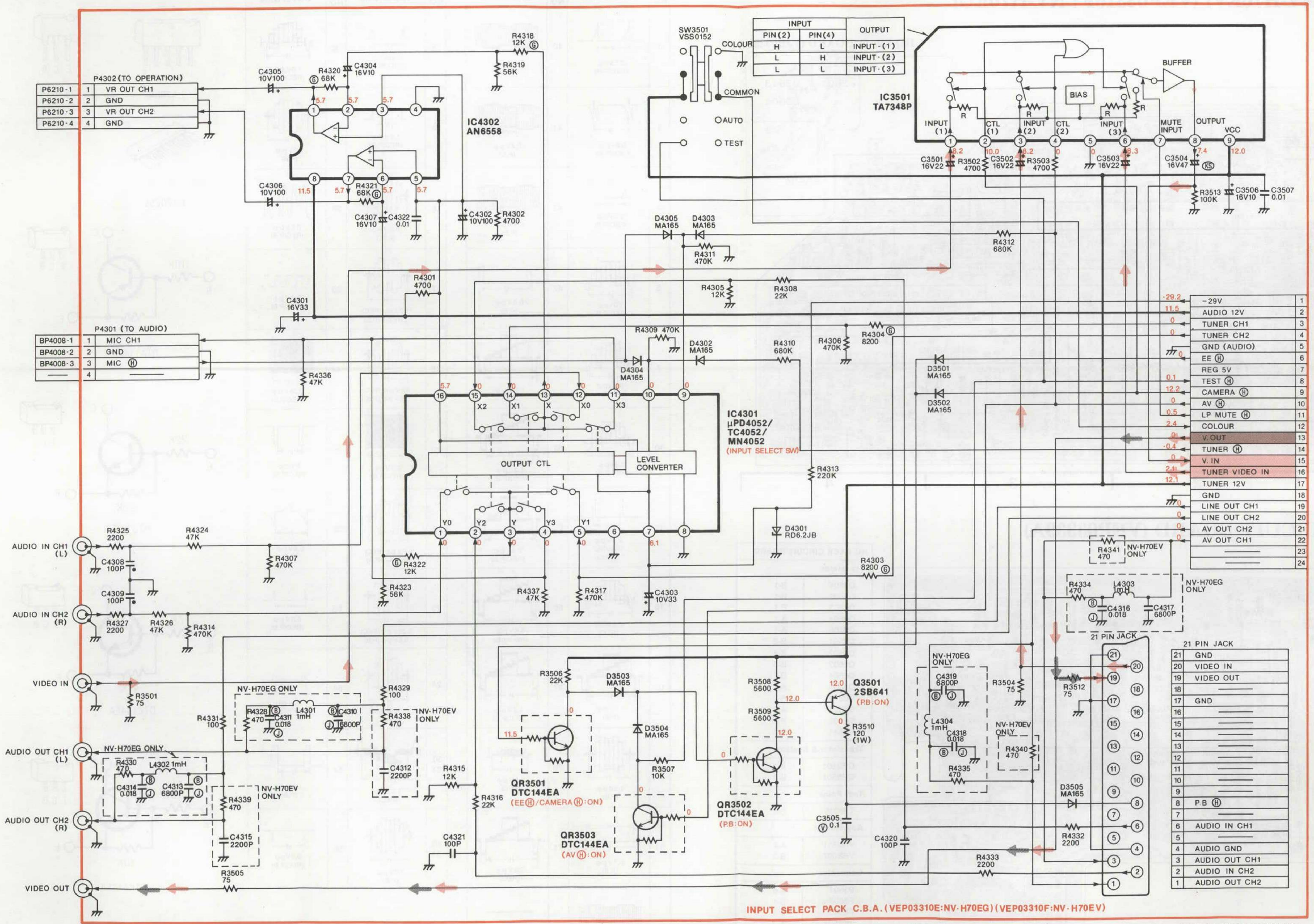

1
5
BA7004
E C B
2SD636
2SB641
2SC2206
1
18
BA7025L
C
10K
B
10K
E
E C B
DTA114EA
C
22K
B
22K
E
E C B
DTC124EA
C
47K
B
47K
E
E C B
DTC144EA
C
10K
B
10K
E
E C B
DTC114EA

Next Page:
INPUT SELECT PACK Section

4/17/2018

3-19. INPUT SELECT PACK SCHEMATIC DIAGRAM

← VIDEO MAIN SIGNAL PATH IN REC MODE ← VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

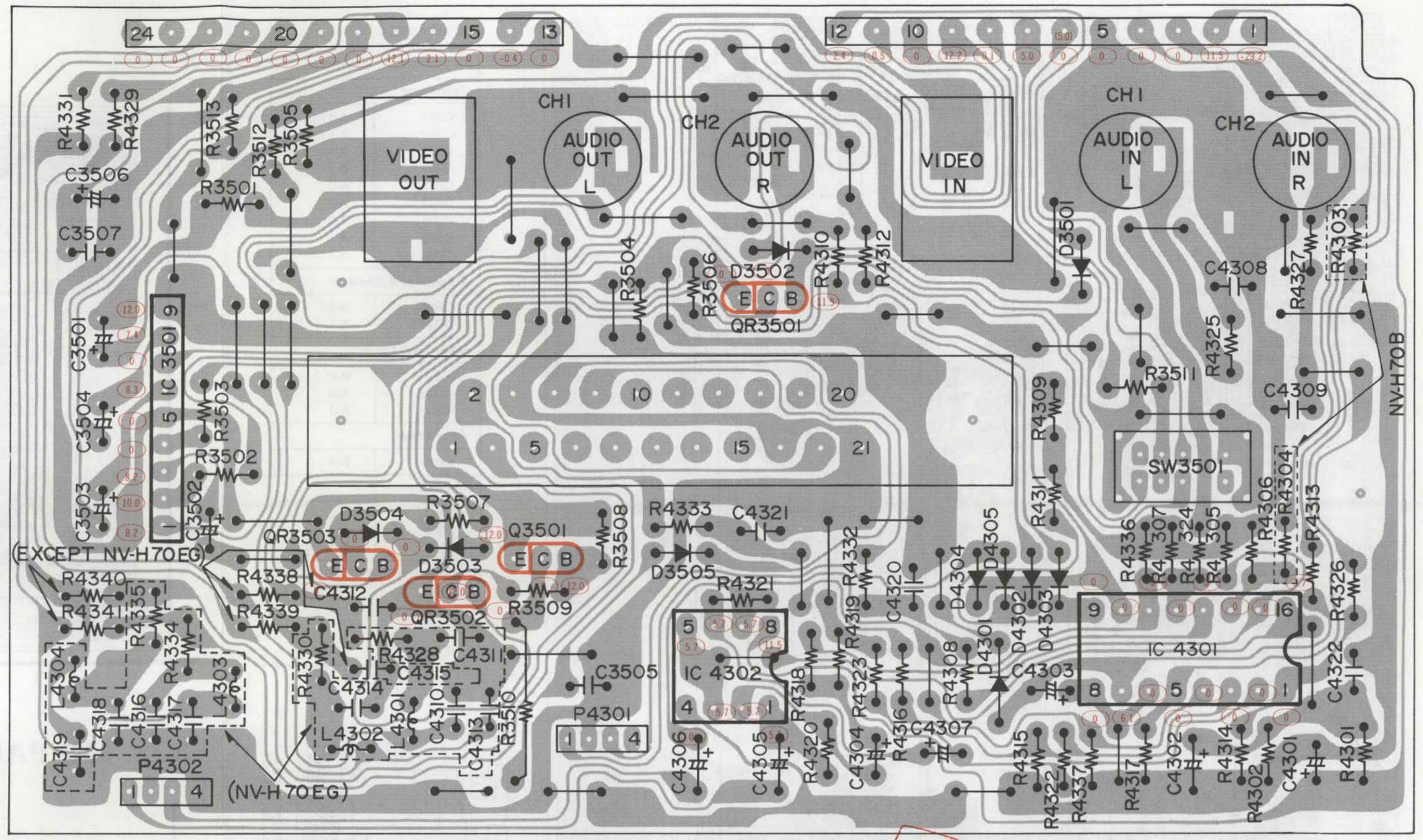

P4302 (TO OPERATION)
P6210-1 1 VR OUT CH1
P6210-2 2 GND
P6210-3 3 VR OUT CH2
P6210-4 4 GND
P4301 (TO AUDIO)
BP4008-1 1 MIC CH1
BP4008-2 2 GND
BP4008-3 3 MIC Ⓗ
IC4302 AN6558
IC4301 µPD4052/ TC4052/ MN4052 (INPUT SELECT SW)
OUTPUT CTL
LEVEL CONVERTER
SW3501 VSS0152
COLOUR
COMMON
AUTO
TEST
INPUT PIN(2) PIN(4) OUTPUT
H H INPUT-(1)
L H INPUT-(2)
L L INPUT-(3)
IC3501 TA7348P
BIAS
BUFFER
INPUT (1) CTL (1) INPUT (2) CTL (2) INPUT (3) MUTE INPUT OUTPUT VCC
1 -29V
2 AUDIO 12V
3 TUNER CH1
4 TUNER CH2
5 GND (AUDIO)
6 EE Ⓗ
7 REG 5V
8 TEST Ⓗ
9 CAMERA Ⓗ
10 AV Ⓗ
11 LP MUTE Ⓗ
12 COLOUR
13 V.OUT
14 TUNER Ⓗ
15 V. IN
16 TUNER VIDEO IN
17 TUNER 12V
18 GND
19 LINE OUT CH1
20 LINE OUT CH2
21 AV OUT CH2
22 AV OUT CH1
23
24
AUDIO IN CH1 (L)
AUDIO IN CH2 (R)
VIDEO IN
AUDIO OUT CH1 (L)
AUDIO OUT CH2 (R)
VIDEO OUT
NV-H70EG ONLY
NV-H70EV ONLY
Q3501 2SB641 (PB:ON)
QR3501 DTC144EA (EE Ⓗ /CAMERA Ⓗ ·ON)
QR3502 DTC144EA (PB:ON)
QR3503 DTC144EA (AV Ⓗ ·ON)
D4301 RD6.2JB
D3503 MA165
D3504 MA165
D3505 MA165
21 PIN JACK
21 GND
20 VIDEO IN
19 VIDEO OUT
18
17 GND
16
15
14
13
12
11
10
9
8 P.B Ⓗ
7
6 AUDIO IN CH1
5
4 AUDIO GND
3 AUDIO OUT CH1
2 AUDIO IN CH2
1 AUDIO OUT CH2

INPUT SELECT PACK C.B.A. (VEP03310E:NV-H70EG) (VEP03310F:NV-H70EV)

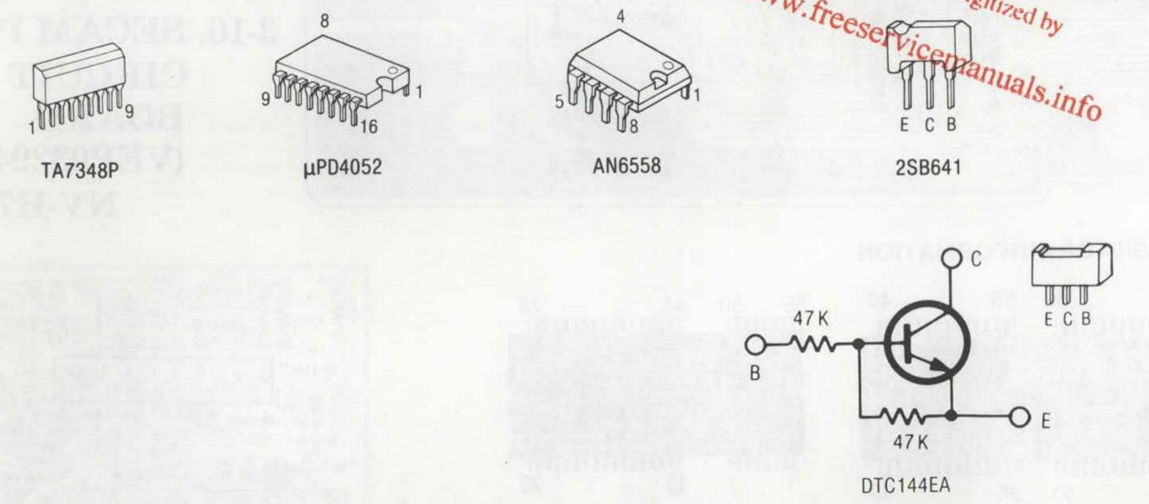
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

3-20. INPUT SELECT PACK CIRCUIT BOARD (VEP03310E: NV-H70EG) (VEP03310F : NV-H70EV)


VIDEO OUT
CH1 AUDIO OUT L
CH2 AUDIO OUT R
VIDEO IN
CH1 AUDIO IN L
CH2 AUDIO IN R
IC 3501
QR3501
QR3502
QR3503
Q3501
SW3501
IC 4302
IC 4301
P4301
P4302
EXCEPT NV-H70EG
(NV-H70EG)
NV-H70B

ICs & TRANSISTORs INFORMATION


TA7348P
µPD4052
AN6558
2SB641
E C B
47K
B
C
E
DTC144EA

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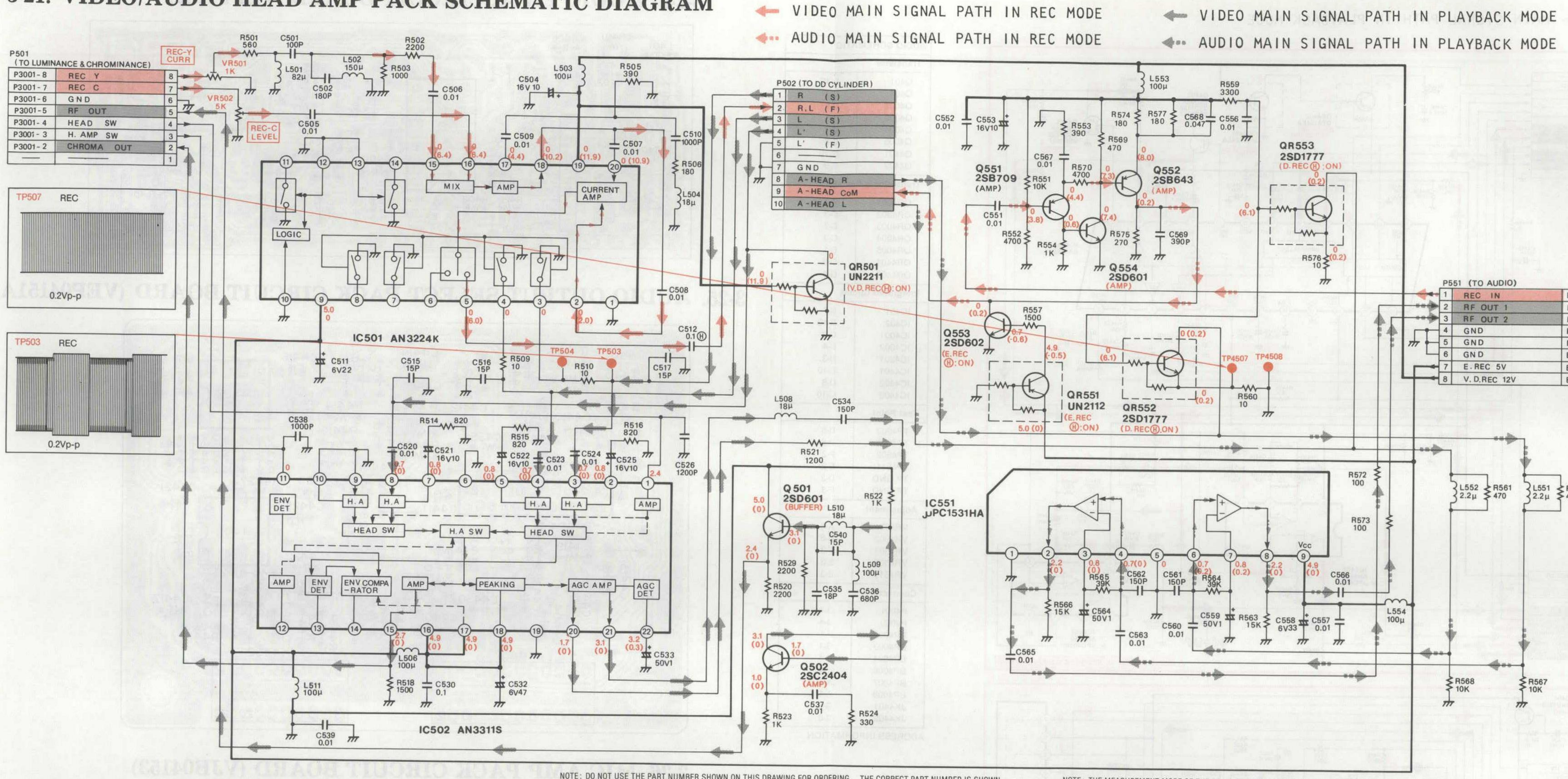
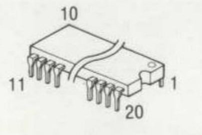
3-21. VIDEO/AUDIO HEAD AMP PACK SCHEMATIC DIAGRAM


VIDEO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE
P501 (TO LUMINANCE & CHROMINANCE)
P3001-8 REC Y
P3001-7 REC C
P3001-6 GND
P3001-5 RF OUT
P3001-4 HEAD SW
P3001-3 H. AMP SW
P3001-2 CHROMA OUT
REC-Y CURR
VR501 1K
VR502 5K
REC-C LEVEL
TP507 REC
0.2Vp-p
TP503 REC
0.2Vp-p
P502 (TO DD CYLINDER)
R (S)
R.L (F)
L (S)
L' (S)
L' (F)
GND
A-HEAD R
A-HEAD COM
A-HEAD L
IC501 AN3224K
LOGIC
MIX
AMP
CURRENT AMP
TP504
TP503
QR501 UN2211 (V.D.REC(H):ON)
Q551 2SB709 (AMP)
Q552 2SB643 (AMP)
Q554 2SD601 (AMP)
QR553 2SD1777 (D.REC(H):ON)
Q553 2SD602 (E.REC (H):ON)
QR551 UN2112 (E.REC (H):ON)
QR552 2SD1777 (D.REC(H):ON)
TP4507
TP4508
P551 (TO AUDIO)
REC IN BP4006-1
RF OUT 1 BP4006-2
RF OUT 2 BP4006-3
GND BP4006-4
GND BP4006-5
GND BP4006-6
E.REC 5V BP4006-7
V.D.REC 12V BP4006-8
IC502 AN3311S
ENV DET
H.A
HEAD SW
H.A SW
AMP
ENV DET
ENV COMPA RATOR
PEAKING
AGC AMP
AGC DET
Q501 2SD601 (BUFFER)
Q502 2SC2404 (AMP)
IC551 µPC1531HA
Vcc

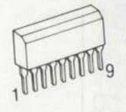
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH PAL COLOUR SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH PAL COLOUR SIGNAL.

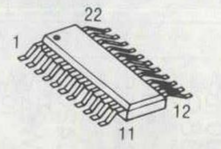
ICs & TRANSISTORs INFORMATION



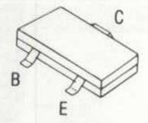
AN3224K



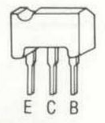
µPC1531HA



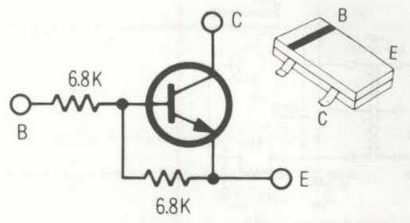
AN3311S



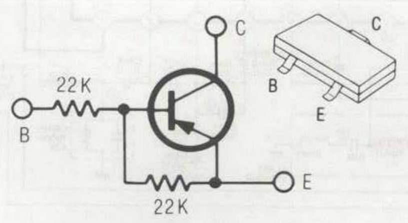
2SD601
2SD602
2SB709
2SC2404



2SB643

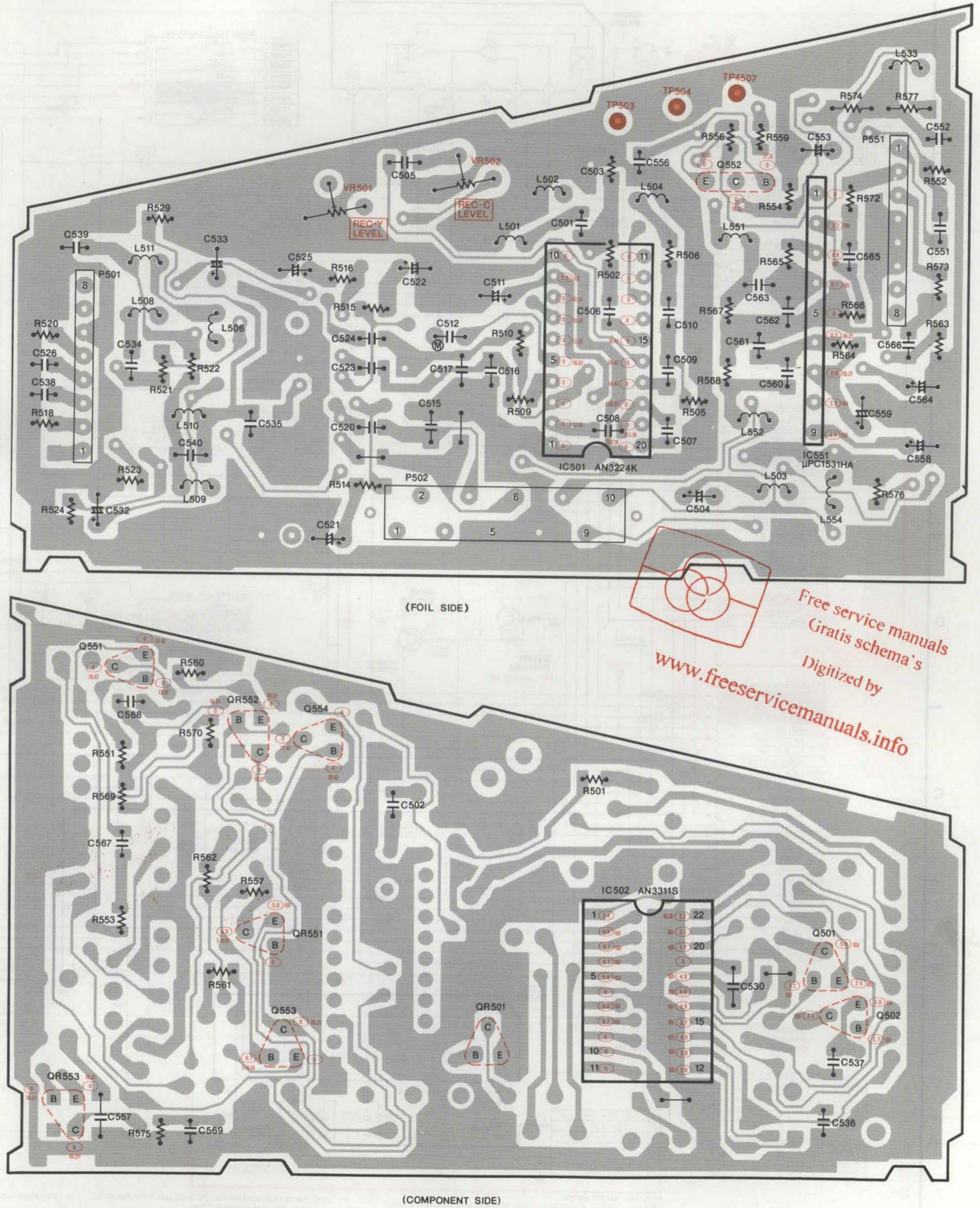

C
6.8K
B
6.8K
E
B
E
C

2SD1777


C
22K
B
22K
E
C
B
E

UN2112

3-22. VIDEO/AUDIO HEAD AMP PACK CIRCUIT BOARD (VEP05089)


(FOIL SIDE)
TP503
TP504
TP4507
VR501
VR502
REC-Y LEVEL
REC-C LEVEL
P501
P502
P551
IC501 AN3224K
IC551 µPC1531HA
(COMPONENT SIDE)
IC502 AN3311S
Q501
Q502
Q551
Q552
Q553
Q554
QR501
QR551
QR552
QR553

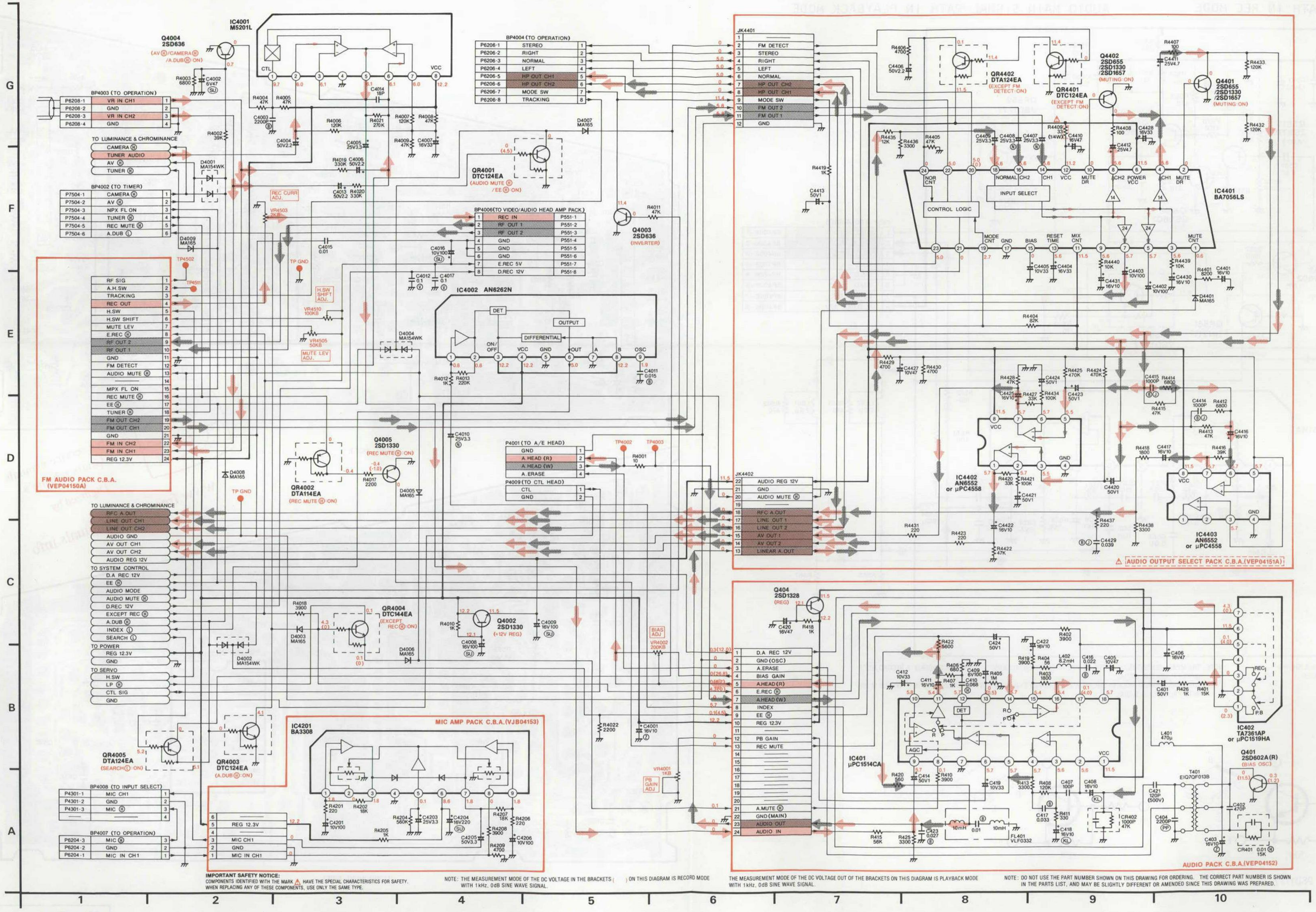
Next Page:
AUDIO Section

4/17/2018

3-23. AUDIO SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE


IC4001 M5201L
IC4002 AN6262N
IC4201 BA3308
IC4401 BA7056LS
IC4402 AN6552 or µPC4558
IC4403 AN6552 or µPC4558
IC401 µPC1514CA
IC402 TA7361AP or µPC1519HA
Q4004 2SD636
Q4003 2SD636 (INVERTER)
Q4005 2SD1330
Q4002 2SD1330
Q404 2SD1328
Q401 2SD602A(R) (BIAS OSC)
Q4401 2SD655 /2SD1330 /2SD1657 (MUTING ON)
Q4402 2SD655 /2SD1330 /2SD1657 (MUTING ON)
QR4001 DTC124EA (AUDIO MUTE ON)
QR4002 DTA114EA (REC MUTE ON)
QR4003 DTC124EA (A.DUB ON)
QR4004 DTC144EA (EXCEPT REC ON)
QR4005 DTA124EA (SEARCH ON)
QR4401 DTC124EA (EXCEPT FM DETECT ON)
QR4402 DTA124EA (EXCEPT FM DETECT ON)
BP4003 (TO OPERATION)
TO LUMINANCE & CHROMINANCE
BP4002 (TO TIMER)
BP4004 (TO OPERATION)
BP4006 (TO VIDEO/AUDIO HEAD AMP PACK)
P4001 (TO A/E HEAD)
P4009 (TO CTL HEAD)
TO SYSTEM CONTROL
TO POWER
TO SERVO
BP4008 (TO INPUT SELECT)
BP4007 (TO OPERATION)
JK4401
JK4402
FM AUDIO PACK C.B.A. (VEP04150A)
AUDIO OUTPUT SELECT PACK C.B.A. (VEP04151A)
MIC AMP PACK C.B.A. (VJB04153)
AUDIO PACK C.B.A. (VEP04152)
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH 1kHz, 0dB SINE WAVE SIGNAL.

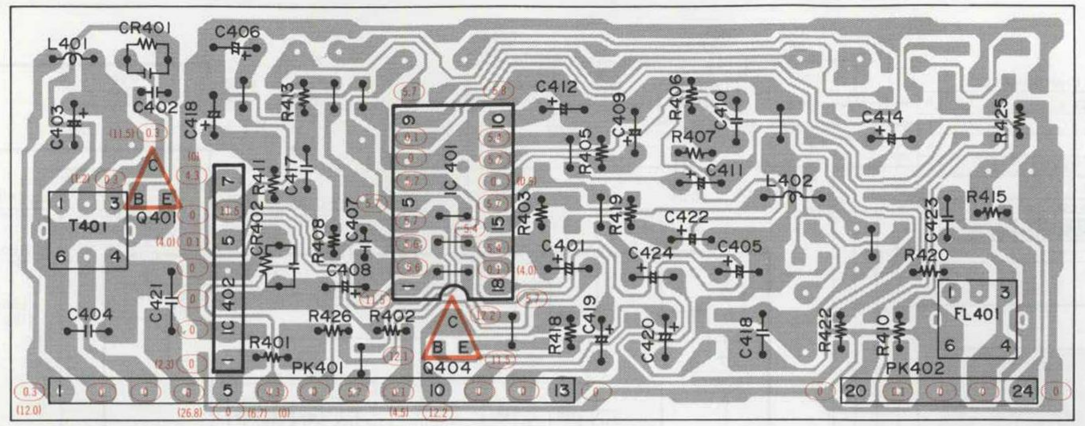
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH 1kHz, 0dB SINE WAVE SIGNAL.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

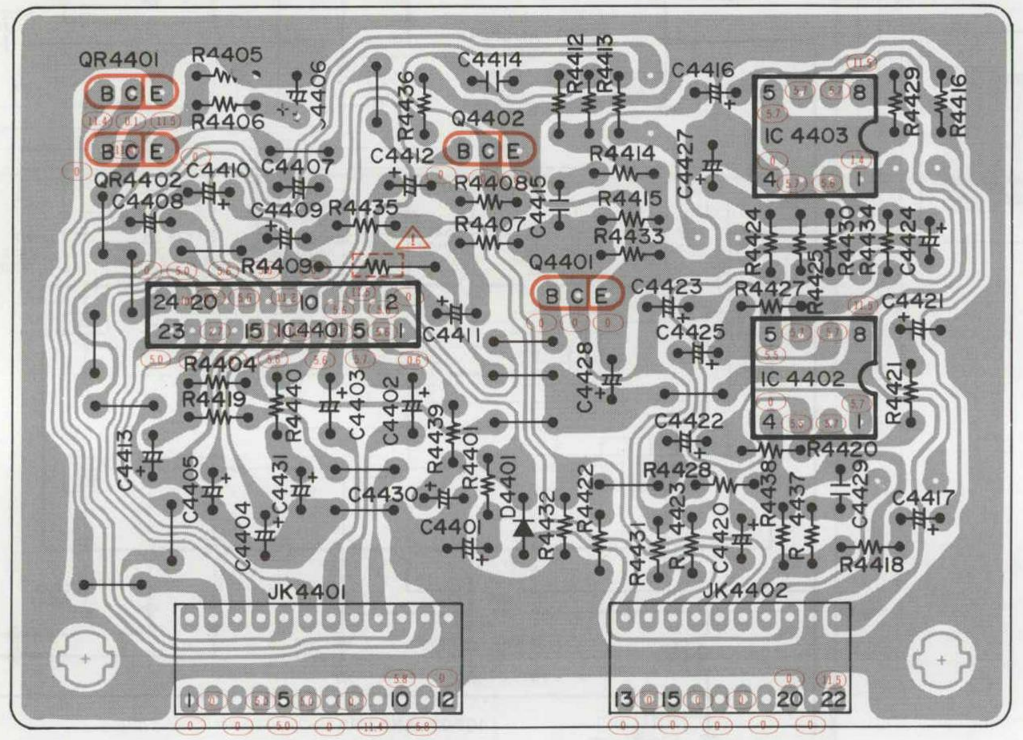
AUDIO SCHEMATIC	
Transistor	
Q401	B-10
Q404	C-7
Q4002	C-4
Q4003	F-5
Q4004	G-1
Q4005	D-3
Q4401	G-10
Q4402	G-9
Transistor & Resistor	
QR4001	F-4
QR4002	D-3
QR4003	B-2
QR4004	C-3
QR4005	B-1
QR4401	G-9
QR4402	G-8
Integrated Circuit	
IC401	B-7
IC402	B-10
IC4001	G-2
IC4002	E-4
IC4201	B-3
IC4401	F-10
IC4402	D-8
IC4403	C-10
Test Point	
TP4002	D-5
TP4003	D-6
TP4502	F-2
TP4511	E-2
TP GND	D-2
TP GND	F-3
Adjustment	
VR4001	A-6
VR4002	B-6
VR4503	F-3
VR4505	E-3
VR4510	E-3
Connector	
P4001	D-4
P4009	D-4
BP4002	F-1
BP4003	G-1
BP4004	G-4
BP4006	F-4
BP4007	A-1
BP4008	A-1
JK4401	G-6
JK4402	D-6

ADDRESS INFORMATION

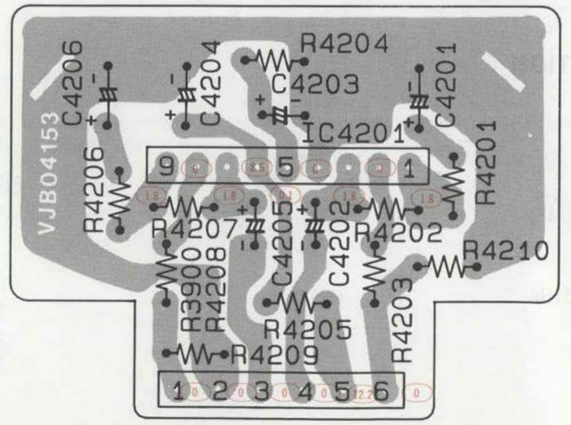
3-24. AUDIO PACK CIRCUIT BOARD (VEP04152)


L401
CR401
C406
C402
T401
Q401
IC401
IC402
C412
C414
L402
R425
C422
C401
C424
C405
FL401
C404
R401
PK401
Q404
R418
PK402
R415

3-25. AUDIO OUTPUT SELECT PACK CIRCUIT BOARD (VEP04151A)


QR4401
R4405
R4406
C4414
C4416
Q4402
IC 4403
QR4402
C4410
C4407
R4407
Q4401
IC4401
R4404
R4419
IC 4402
C4411
C4421
C4422
R4428
R4420
C4417
R4418
C4430
C4401
JK4401
JK4402

3-26. MIC AMP PACK CIRCUIT BOARD (VJB04153)


VJB04153
C4206
C4204
R4204
C4203
IC4201
C4201
R4201
R4205
R4207
R4208
R3900
C4205
C4202
R4202
R4210
R4205
R4209
R4203
1 2 3 4 5 6

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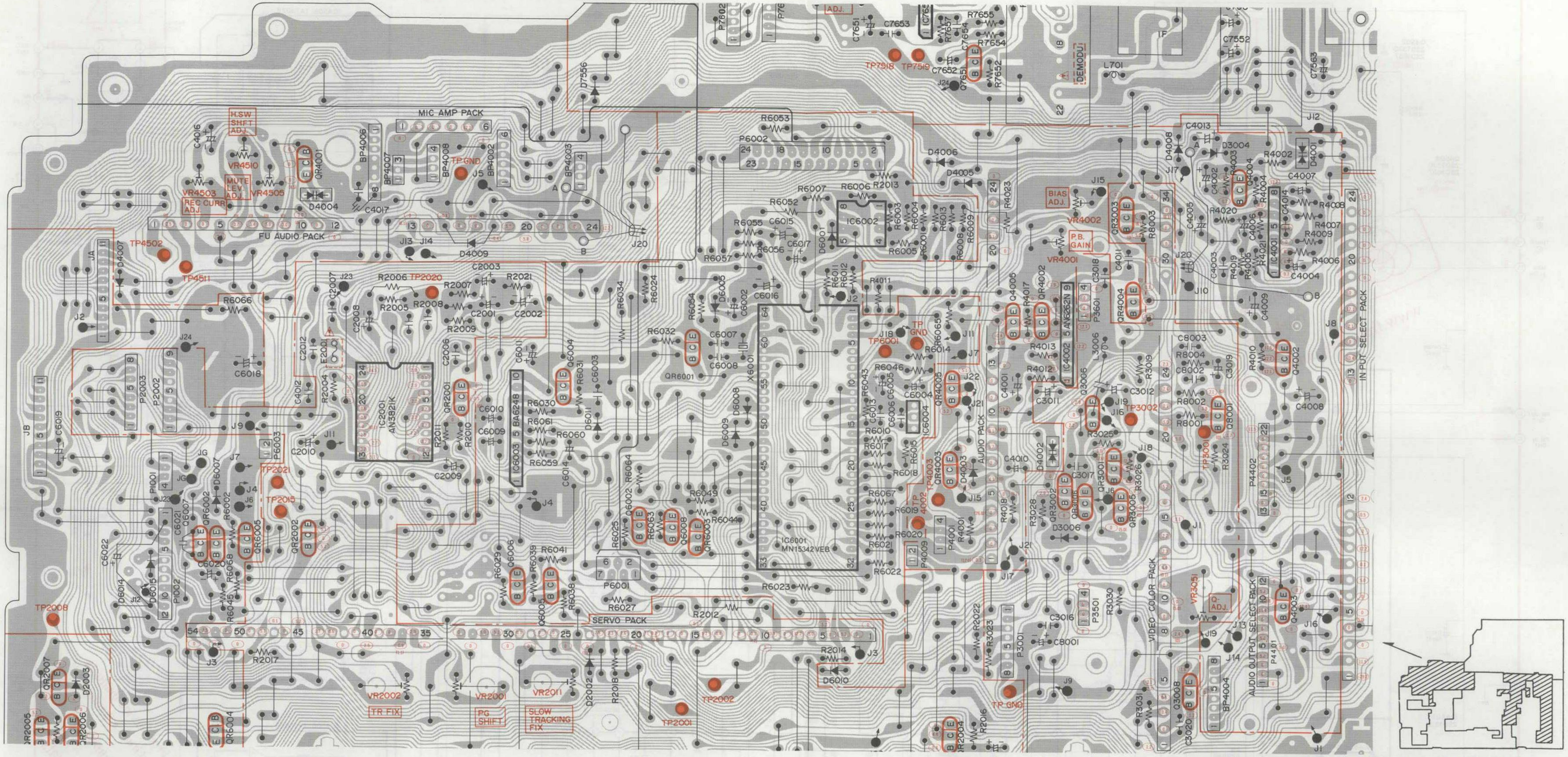
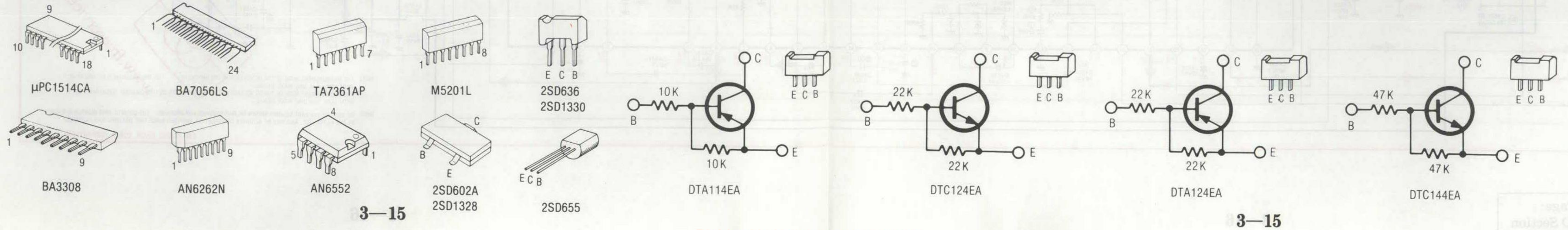
3-27. AUDIO Section In Main Circuit Board (VEP03309E: NV-H70EG)(VEP03309F: NV-H70EV)


MIC AMP PACK
FU AUDIO PACK
SERVO PACK
AUDIO PACK
VIDEO COLOR PACK
AUDIO OUTPUT SELECT PACK
IN PUT SELECT PACK
IC6001 MN15342VEB
IC2001 AN3821K
IC6002
IC6003 BA6248
IC4002 AN6552N
IC4001
H.SW SHIFT ADJ.
VR4510
VR4503 REC CURR ADJ.
MUTE LEV ADJ.
VR4505
VR2002 TR FIX
VR2001 PG SHIFT
VR2011 SLOW TRACKING FIX
BIAS ADJ.
VR4002 P.B. GAIN
VR4001
VR3051 Q ADJ.
DEMODU
ADJ.
TP4502
TP4511
TP2020
TP2021
TP2015
TP2008
TP2002
TP2001
TP GND
TP6001
TP3002
TP3001
TP4002
TP4003
TP7518
TP7519

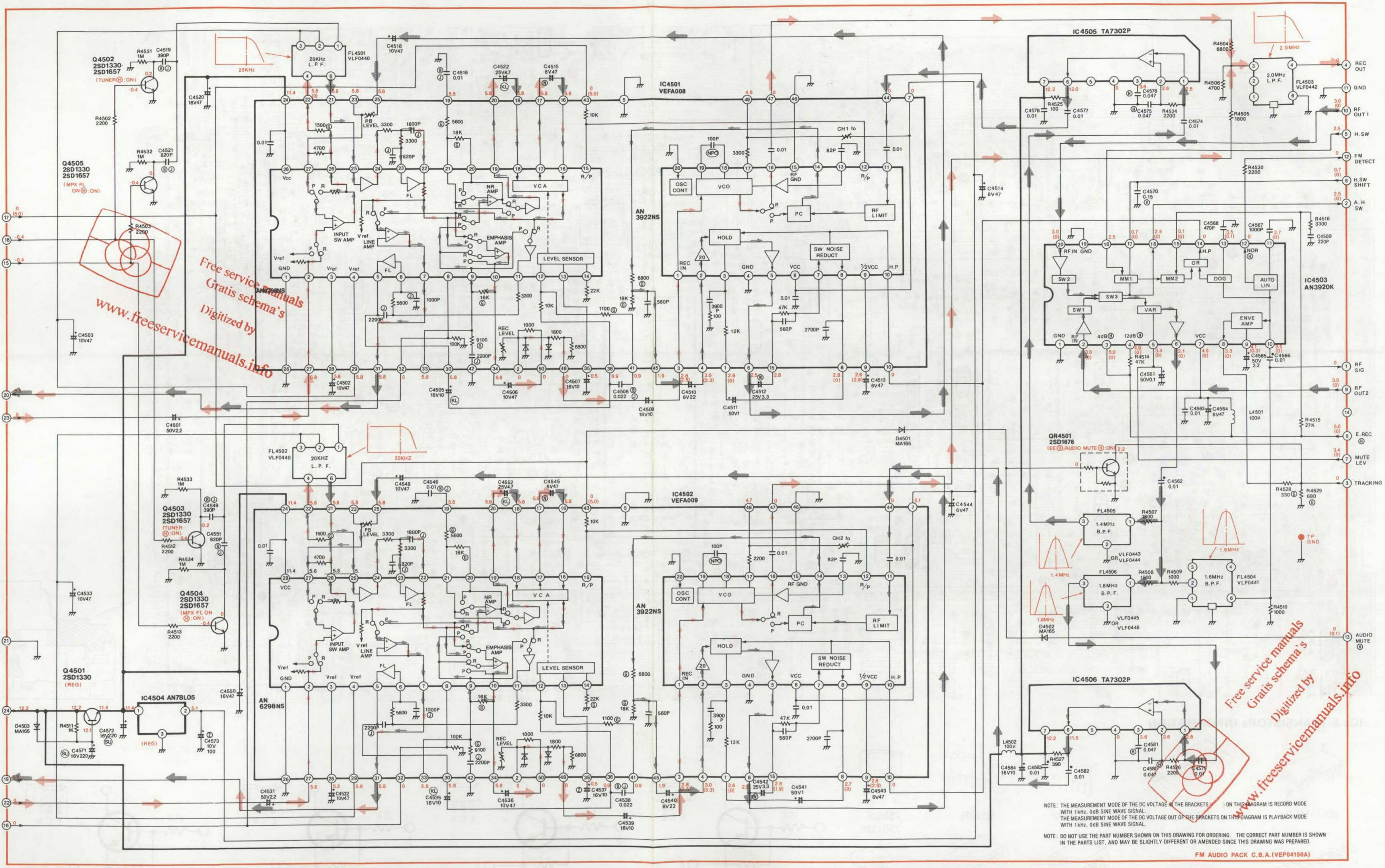
ICs & TRANSISTORs INFORMATION


µPC1514CA
9
10
18
1
BA7056LS
1
24
TA7361AP
1
7
M5201L
1
8
2SD636
2SD1330
E C B
BA3308
1
9
AN6262N
1
9
AN6552
4
5
8
1
2SD602A
2SD1328
B
C
E
2SD655
E C B
DTA114EA
10K
10K
B
C
E
E C B
DTC124EA
22K
22K
B
C
E
E C B
DTA124EA
22K
22K
B
C
E
E C B
DTC144EA
47K
47K
B
C
E
E C B

3-28. FM AUDIO PACK SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE

MAIN SIGNAL PATH IN PLAYBACK MODE



IC4501 VEFA008
IC4502 VEFA009
AN 3922NS
AN6298NS
IC4503 AN3920K
IC4504 AN78L05
IC4505 TA7302P
IC4506 TA7302P
FL4501 VLF0440 20KHz L.P.F.
FL4502 VLF0440 20KHZ L.P.F.
FL4503 VLF0442 2.0MHz L.P.F.
FL4504 VLF0441 1.6MHz B.P.F.
FL4505 1.4MHz B.P.F. VLF0443 OR VLF0444
FL4506 1.8MHz B.P.F. VLF0445 OR VLF0446
Q4501 2SD1330 (REG)
Q4502 2SD1330 2SD1657 (TUNER Ⓗ:ON)
Q4503 2SD1330 2SD1657 (TUNER Ⓗ:ON)
Q4504 2SD1330 2SD1657 (MPX FL ON Ⓗ:ON)
Q4505 2SD1330 2SD1657 (MPX FL ON Ⓗ:ON)
QR4501 2SD1676 (EE Ⓗ/AUDIO MUTE Ⓗ:ON)
D4501 MA165
D4502 MA165
D4503 MA165
L4501 100μ
L4502 100μ
VCA
NR AMP
EMPHASIS AMP
INPUT SW AMP
LINE AMP
LEVEL SENSOR
REC LEVEL
PB LEVEL
OSC CONT
VCO
PC
RF LIMIT
HOLD
SW NOISE REDUCT
RF GND
R/P
CH1 fo
CH2 fo
SW1
SW2
SW3
MM1
MM2
DOG
OR
VAR
AUTO LIN
ENVE AMP
EE
TUNER
MPX FLON
FM OUT CH1
FM IN CH1
GND
REG 12.3V
FM OUT CH2
FM IN CH2
REC MUTE
REC OUT
GND
RF OUT1
H.SW
FM DETECT
H.SW SHIFT
A.H SW
RF SIG
RF OUT2
E.REC
MUTE LEV
TRACKING
AUDIO MUTE
TP GND
20KHz
2.0MHz
1.4MHz
1.6MHz
1.8MHz

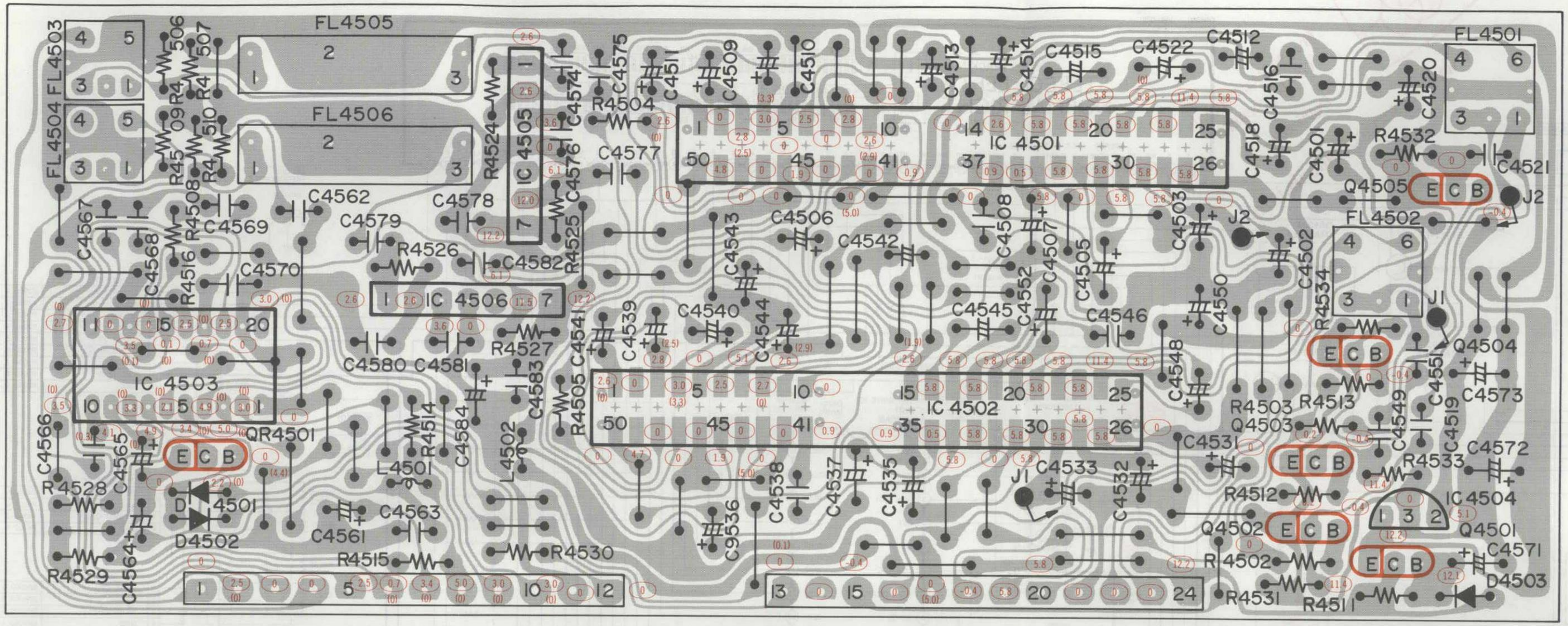
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH 1kHz, 0dB SINE WAVE SIGNAL.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH 1kHz, 0dB SINE WAVE SIGNAL.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

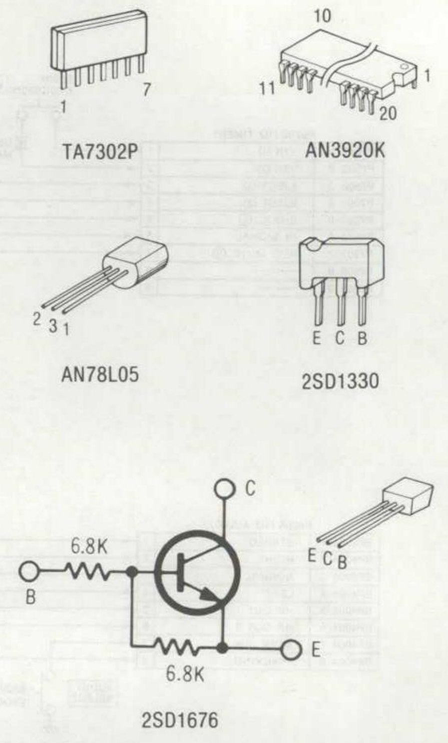
FM AUDIO PACK C.B.A. (VEP04150A)

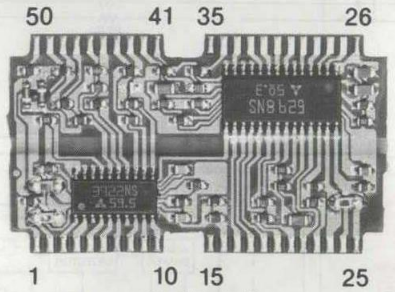
Back Page:
AUDIO Section

3-29. FM AUDIO PACK CIRCUIT BOARD (VEP04150A)

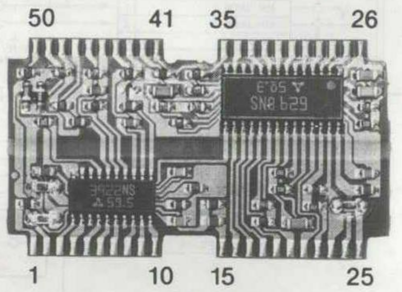

FL4503
FL4504
FL4505
FL4506
FL4501
FL4502
IC 4501
IC 4502
IC 4503
IC 4504
IC 4505
IC 4506
Q4501
Q4502
Q4503
Q4504
Q4505
QR4501
D4501
D4502
D4503
L4501
L4502
J1
J2
R4504
R4505
R4506
R4507
R4508
R4509
R4510
R4511
R4512
R4513
R4514
R4515
R4516
R4524
R4525
R4526
R4527
R4528
R4529
R4530
R4531
R4532
R4533
R4534
C4501
C4502
C4503
C4505
C4506
C4507
C4508
C4509
C4510
C4511
C4512
C4513
C4514
C4515
C4516
C4518
C4519
C4520
C4521
C4522
C4531
C4532
C4533
C4535
C4537
C4538
C4539
C4540
C4541
C4542
C4543
C4544
C4545
C4546
C4548
C4549
C4550
C4551
C4552
C4561
C4562
C4563
C4564
C4565
C4566
C4567
C4568
C4569
C4570
C4571
C4572
C4573
C4574
C4575
C4576
C4577
C4578
C4579
C4580
C4581
C4582
C4583
C4584
C9536
E C B

ICs & TRANSISTORs INFORMATION


TA7302P
1
7
AN3920K
10
11
1
20
AN78L05
2 3 1
2SD1330
E C B
2SD1676
C
B
E
6.8K
6.8K
E C B

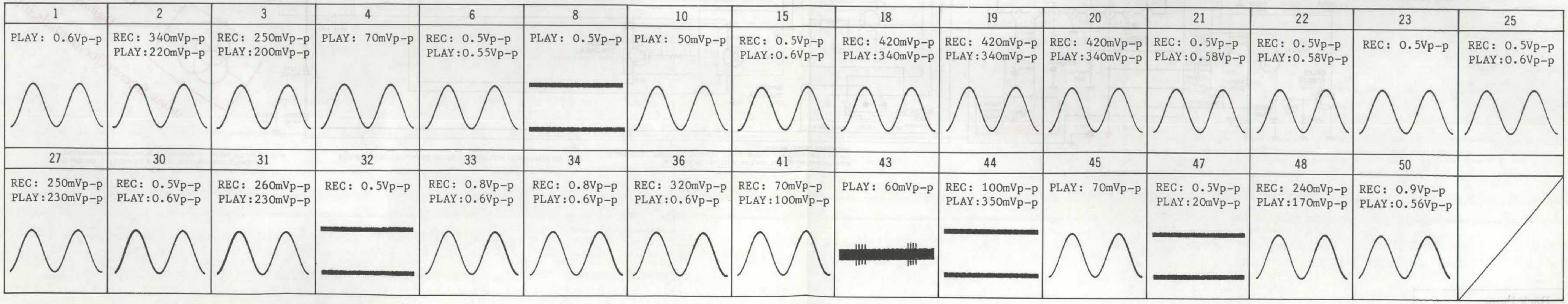

50
41
35
26
1
10
15
25

VEFA008


50
41
35
26
1
10
15
25

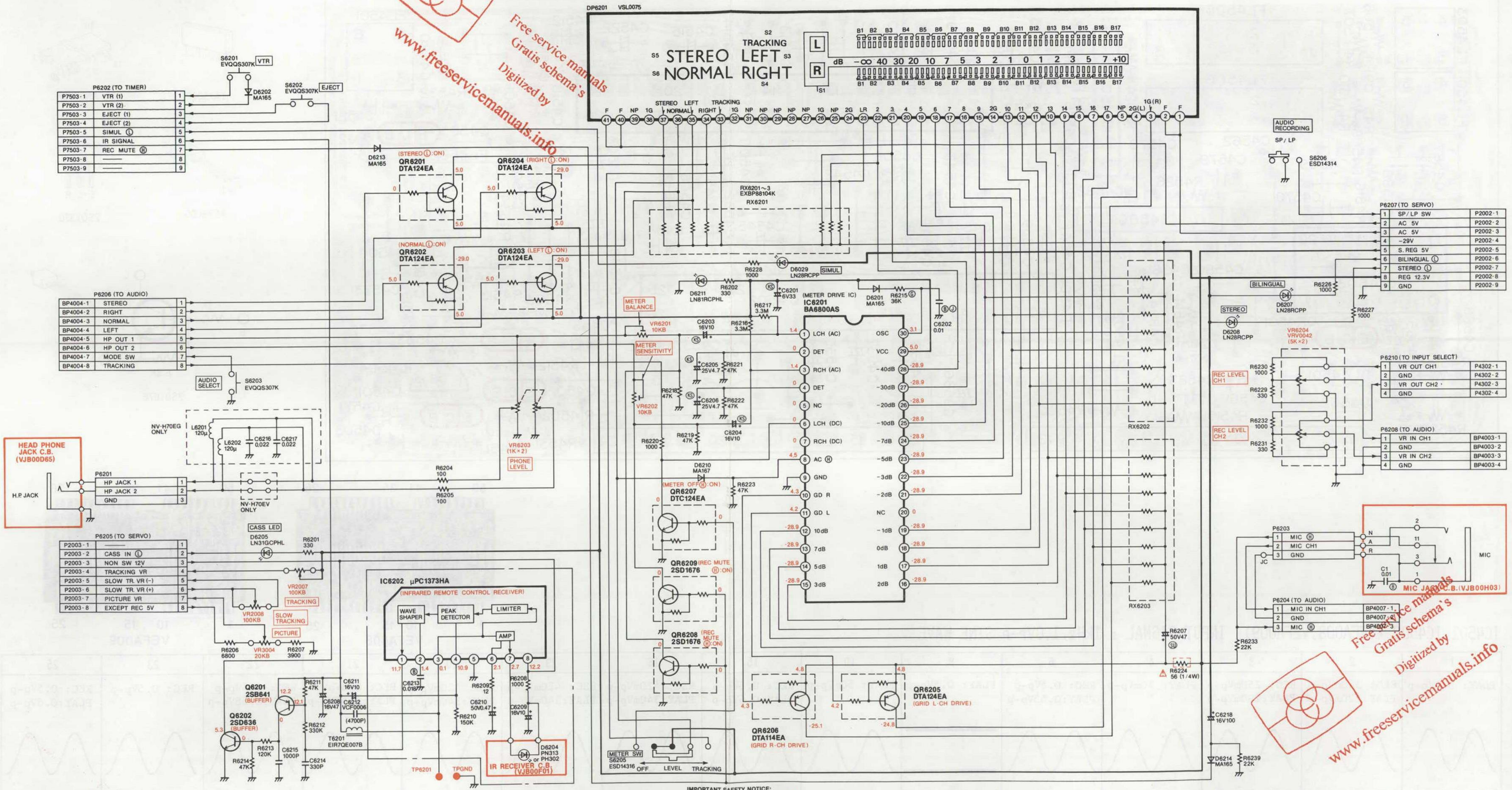
VEFA009

IC4501,IC4502 (VEFA008,VEFA009) INPUT SIGNAL : 1kHz,1.0Vp-p SINE WAVE



1	2	3	4	6	8	10	15	18	19	20	21	22	23	25
PLAY: 0.6Vp-p	REC: 340mVp-p PLAY:220mVp-p	REC: 250mVp-p PLAY:200mVp-p	PLAY: 70mVp-p	REC: 0.5Vp-p PLAY:0.55Vp-p	PLAY: 0.5Vp-p	PLAY: 50mVp-p	REC: 0.5Vp-p PLAY:0.6Vp-p	REC: 420mVp-p PLAY:340mVp-p	REC: 420mVp-p PLAY:340mVp-p	REC: 420mVp-p PLAY:340mVp-p	REC: 0.5Vp-p PLAY:0.58Vp-p	REC: 0.5Vp-p PLAY:0.58Vp-p	REC: 0.5Vp-p	REC: 0.5Vp-p PLAY:0.6Vp-p
27	30	31	32	33	34	36	41	43	44	45	47	48	50	
REC: 250mVp-p PLAY:230mVp-p	REC: 0.5Vp-p PLAY:0.6Vp-p	REC: 260mVp-p PLAY:230mVp-p	REC: 0.5Vp-p	REC: 0.8Vp-p PLAY:0.6Vp-p	REC: 0.8Vp-p PLAY:0.6Vp-p	REC: 320mVp-p PLAY:0.6Vp-p	REC: 70mVp-p PLAY:100mVp-p	PLAY: 60mVp-p	REC: 100mVp-p PLAY:350mVp-p	PLAY: 70mVp-p	REC: 0.5Vp-p PLAY:20mVp-p	REC: 240mVp-p PLAY:170mVp-p	REC: 0.9Vp-p PLAY:0.56Vp-p	

3-30. OPERATION SCHEMATIC DIAGRAM


DP6201 VSL0075
S5 STEREO
S6 NORMAL
S2 TRACKING
S3 LEFT
S4 RIGHT
S1
L
R
dB −∞ 40 30 20 10 7 5 3 2 1 0 1 2 3 5 7 +10
B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 B15 B16 B17
STEREO LEFT TRACKING
NORMAL RIGHT
1G(R)
2G(L)
S6201 EVQQS307K
VTR
S6202 EVQQS307K
EJECT
D6202 MA165
P6202 (TO TIMER)
P7503-1 VTR (1)
P7503-2 VTR (2)
P7503-3 EJECT (1)
P7503-4 EJECT (2)
P7503-5 SIMUL
P7503-6 IR SIGNAL
P7503-7 REC MUTE
P7503-8
P7503-9
D6213 MA165
(STEREO ON)
QR6201 DTA124EA
QR6204 (RIGHT ON) DTA124EA
(NORMAL ON)
QR6202 DTA124EA
QR6203 (LEFT ON) DTA124EA
P6206 (TO AUDIO)
BP4004-1 STEREO
BP4004-2 RIGHT
BP4004-3 NORMAL
BP4004-4 LEFT
BP4004-5 HP OUT 1
BP4004-6 HP OUT 2
BP4004-7 MODE SW
BP4004-8 TRACKING
AUDIO SELECT
S6203 EVQQS307K
NV-H70EG ONLY
L6201 120µ
L6202 120µ
C6216 0.022
C6217 0.022
NV-H70EV ONLY
HEAD PHONE JACK C.B. (VJB00D65)
H.P. JACK
P6201
HP JACK 1
HP JACK 2
GND
P6205 (TO SERVO)
P2003-1
P2003-2 CASS IN
P2003-3 NON SW 12V
P2003-4 TRACKING VR
P2003-5 SLOW TR VR (−)
P2003-6 SLOW TR VR (+)
P2003-7 PICTURE VR
P2003-8 EXCEPT REC 5V
CASS LED
D6205 LN31GCPHL
R6201 330
VR2007 100KB
TRACKING
VR2008 100KB
SLOW TRACKING
PICTURE
R6206 6800
VR3004 20KB
R6207 3900
R6204 100
R6205 100
VR6203 (1K×2)
PHONE LEVEL
IC6202 µPC1373HA
(INFRARED REMOTE CONTROL RECEIVER)
WAVE SHAPER
PEAK DETECTOR
LIMITER
AMP
Q6201 2SB641 (BUFFER)
Q6202 2SD636 (BUFFER)
R6211 47K
R6212 330K
R6213 120K
R6214 47K
C6215 1000P
C6214 330P
C6211 16V10
C6213 0.018
C6208 16V47
C6212 VCF0006 (4700P)
T6201 EIR7QE007B
R6209 12
C6210 50V0.47
R6210 150K
R6208 1000
C6209 16V10
D6204 PN313 or PH302
IR RECEIVER C.B. (VJB00F01)
TP6201
TPGND
RX6201~3 EXBP88104K
RX6201
R6228 1000
D6029 LN28RCPP
SIMUL
D6211 LN81RCPHL
R6202 330
C6201 6V33
METER BALANCE
VR6201 10KB
METER SENSITIVITY
C6203 16V10
R6217 3.3M
R6216 3.3M
(METER DRIVE IC)
IC6201 BA6800AS
D6201 MA165
R6215 36K
C6202 0.01
C6205 25V4.7
R6221 47K
R6218 47K
C6206 25V4.7
R6222 47K
VR6202 10KB
R6220 1000
R6219 47K
C6204 16V10
LCH (AC)
DET
RCH (AC)
DET
NC
LCH (DC)
RCH (DC)
AC
GND
GD R
GD L
10dB
7dB
5dB
3dB
OSC
VCC
−40dB
−30dB
−20dB
−10dB
−7dB
−5dB
−3dB
−2dB
NC
−1dB
0dB
1dB
2dB
D6210 MA167
(METER OFF ON)
QR6207 DTC124EA
R6223 47K
QR6209 (REC MUTE ON) 2SD1676
QR6208 (REC MUTE ON) 2SD1676
METER SW S6205 ESD14316
OFF LEVEL TRACKING
QR6206 DTA114EA (GRID R-CH DRIVE)
QR6205 DTA124EA (GRID L-CH DRIVE)
RX6202
RX6203
R6207 50V47
R6224 56 (1/4W)
C6218 16V100
D6214 MA165
R6239 22K
AUDIO RECORDING
SP/LP
S6206 ESD14314
P6207 (TO SERVO)
SP/LP SW P2002-1
AC 5V P2002-2
AC 5V P2002-3
−29V P2002-4
S. REG 5V P2002-5
BILINGUAL P2002-6
STEREO P2002-7
REG 12.3V P2002-8
GND P2002-9
BILINGUAL
D6207 LN28RCPP
R6226 1000
STEREO
D6208 LN28RCPP
R6227 1000
VR6204 VRV0042 (5K×2)
P6210 (TO INPUT SELECT)
VR OUT CH1 P4302-1
GND P4302-2
VR OUT CH2 P4302-3
GND P4302-4
REC LEVEL CH1
R6230 1000
R6229 330
REC LEVEL CH2
R6232 1000
R6231 330
P6208 (TO AUDIO)
VR IN CH1 BP4003-1
GND BP4003-2
VR IN CH2 BP4003-3
GND BP4003-4
P6203
MIC
MIC CH1
GND
JC
C1 0.01
MIC JACK C.B. (VJB00H03)
P6204 (TO AUDIO)
MIC IN CH1 BP4007-1
GND BP4007-2
MIC BP4007-3
R6233 22K

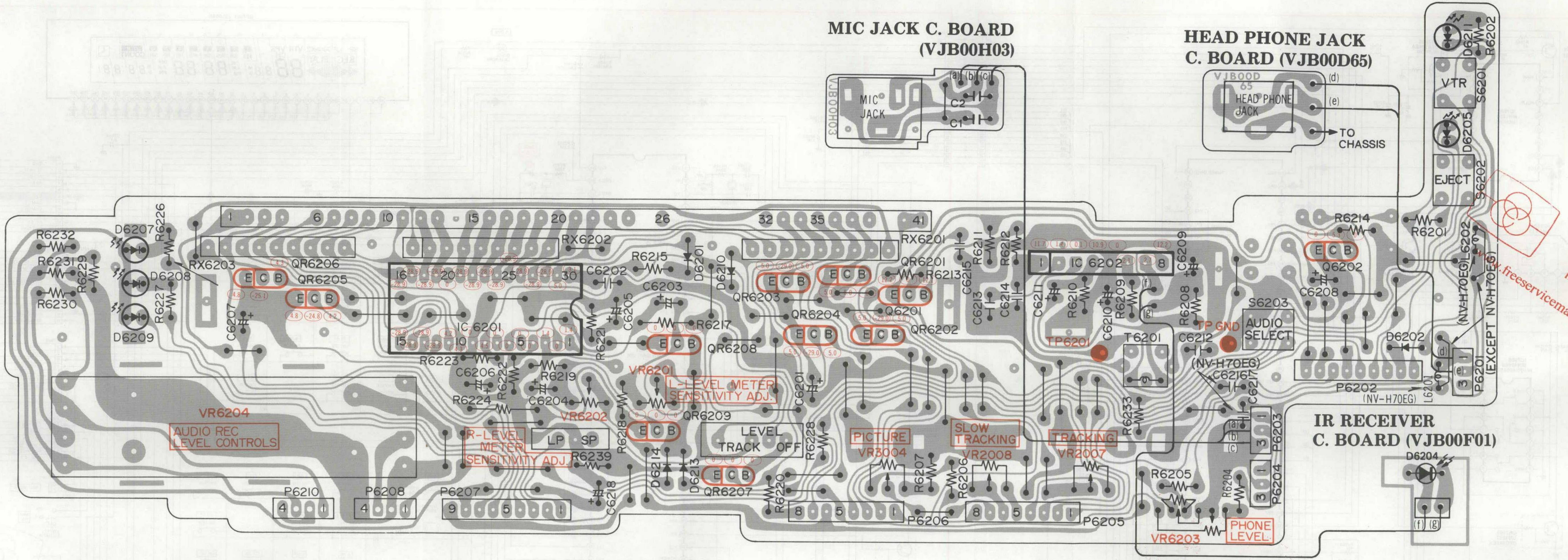
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

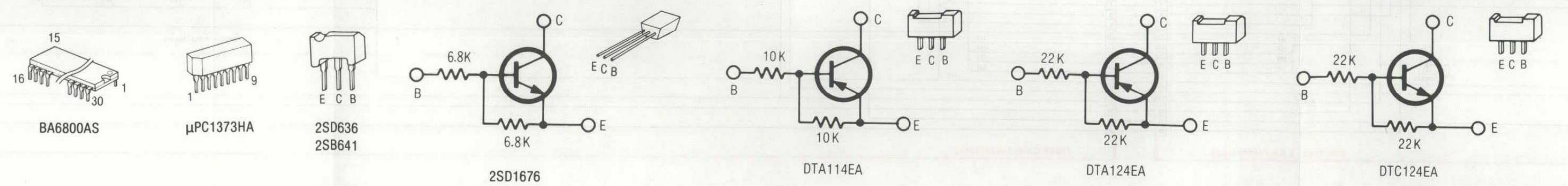
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

Back Page:
FM AUDIO Section

3-31. OPERATION CIRCUIT BOARD (VEP06347D: NV-H70EG) (VEP06347E: NV-H70EV)

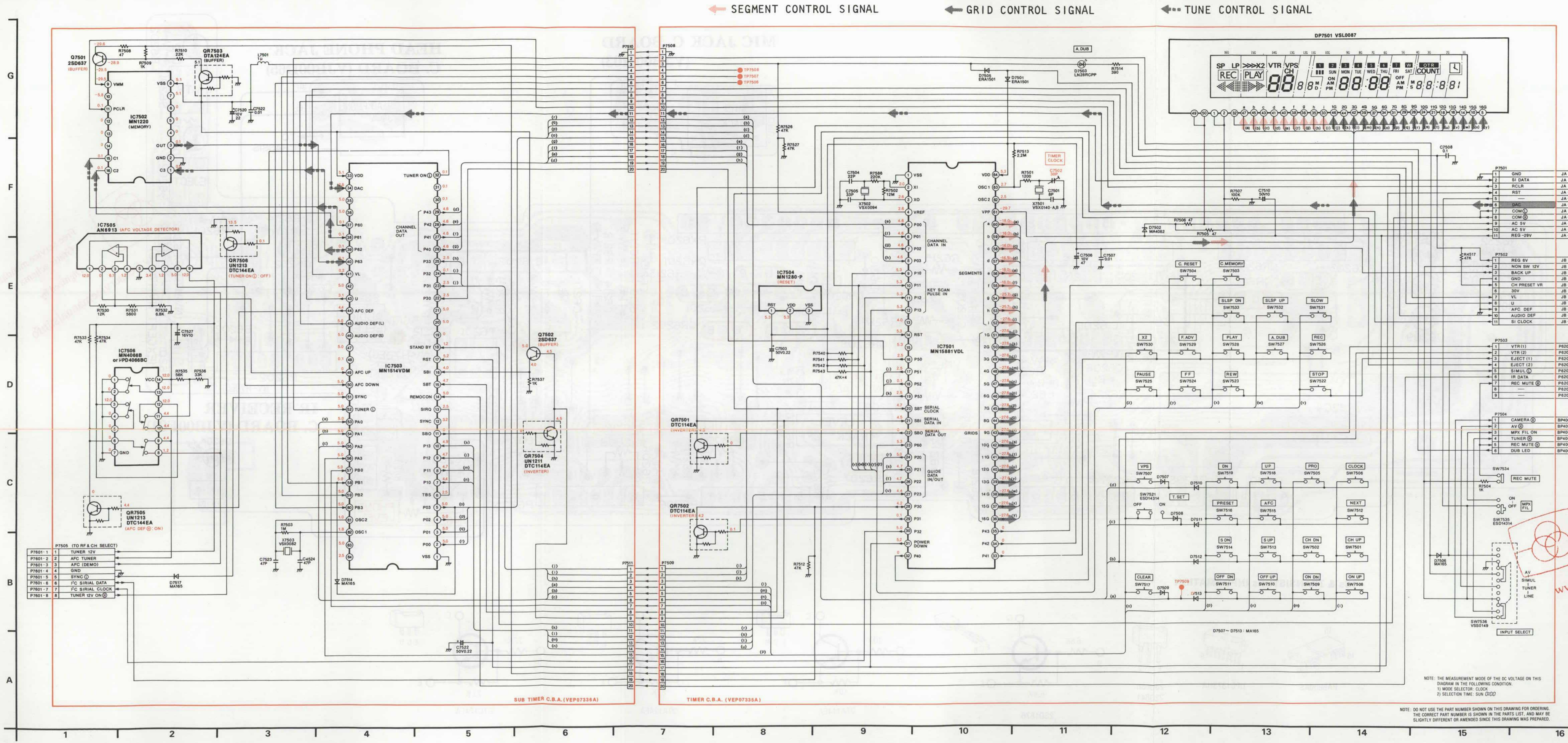

MIC JACK C. BOARD
(VJB00H03)
VJB00H03
MIC JACK
C2
C1
(a) (b) (c)
HEAD PHONE JACK
C. BOARD (VJB00D65)
VJB00D65
HEAD PHONE JACK
(d)
(e)
TO CHASSIS
D6211
R6202
VTR
S6201
D6205
EJECT
S6202
R6214
R6201
S6202
(NV-H70EG)
(EXCEPT NV-H70EG)
Q6202
C6208
S6203
AUDIO SELECT
D6202
P6201
L6201
P6202
(NV-H70EG)
IR RECEIVER
C. BOARD (VJB00F01)
D6204
(f) (g)
P6203
P6204
R6205
R6204
VR6203
PHONE LEVEL
TP GND
TP6201
T6201
C6212
(NV-H70EG)
C6216
C6217
IC 6202
C6209
R6208
R6209
R6210
C6210
C6211
TRACKING
VR2007
P6205
SLOW TRACKING
VR2008
P6206
R6206
R6207
R6233
PICTURE
VR3004
R6228
R6220
C6201
C6215
C6213
C6214
R6211
R6212
RX6201
QR6201
R6213
Q6201
QR6202
QR6203
QR6204
LEVEL
TRACK
OFF
QR6207
D6213
D6214
C6218
R6218
QR6209
QR6208
L-LEVEL METER
SENSITIVITY ADJ.
VR6201
VR6202
R-LEVEL METER
SENSITIVITY ADJ.
LP SP
R6239
R6217
R6215
C6203
C6205
C6202
D6201
D6210
R6221
R6219
C6204
R6224
R6222
C6206
R6223
IC 6201
RX6202
RX6203
QR6206
QR6205
C6207
R6232
R6231
R6230
R6229
R6226
R6227
D6207
D6208
D6209
VR6204
AUDIO REC
LEVEL CONTROLS
P6210
P6208
P6207
1
6
10
15
20
26
32
35
41
16
20
25
30
15
10
5
1
8
4
9
E C B

ICs & TRANSISTORs INFORMATION


15
16
30
1
BA6800AS
1
9
µPC1373HA
E C B
2SD636
2SB641
6.8K
6.8K
B
C
E
E C B
2SD1676
10K
10K
DTA114EA
22K
22K
DTA124EA
22K
22K
DTC124EA

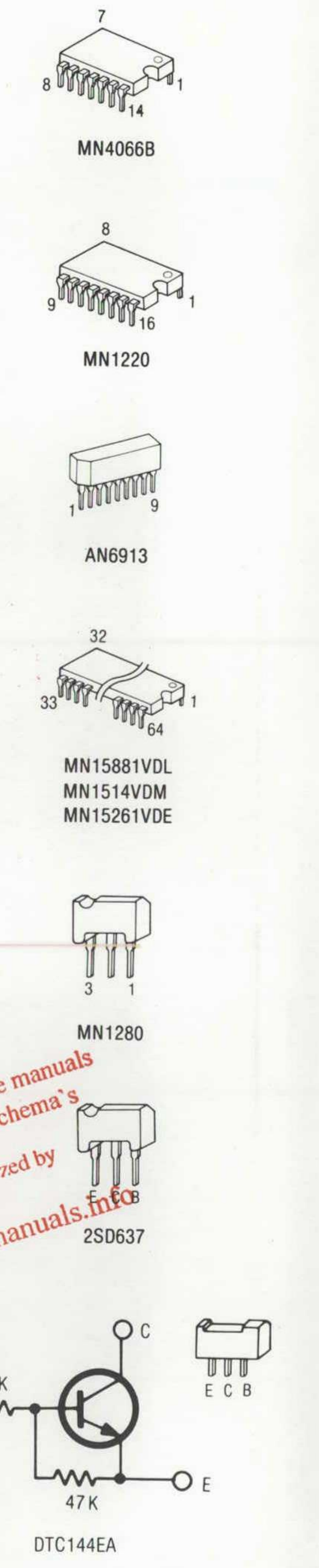
Next Page:
TIMER & SUB TIMER Section

3-32. TIMER & SUB TIMER SCHEMATIC DIAGRAM


SEGMENT CONTROL SIGNAL
GRID CONTROL SIGNAL
TUNE CONTROL SIGNAL
Q7501 2SD637 (BUFFER)
QR7503 DTA124EA (BUFFER)
IC7502 MN1220 (MEMORY)
IC7505 AN6913 (AFC VOLTAGE DETECTOR)
QR7506 UN1213 DTC144EA (TUNER ON Ⓛ : OFF)
IC7506 MN4066B or μPD4066BC
QR7505 UN1213 DTC144EA (AFC DEF Ⓗ : ON)
IC7503 MN1514VDM
Q7502 2SD637 (BUFFER)
QR7504 UN1211 DTC144EA (INVERTER)
QR7501 DTC114EA (INVERTER)
QR7502 DTC114EA (INVERTER)
IC7504 MN1280-P (RESET)
IC7501 MN15881VDL
DP7501 VSL0087
P7505 (TO RF & CH SELECT)
P7601-1 | 1 | TUNER 12V
P7601-2 | 2 | AFC TUNER
P7601-3 | 3 | AFC (DEMO)
P7601-4 | 4 | GND
P7601-5 | 5 | SYNC Ⓛ
P7601-6 | 6 | I²C SIRIAL DATA
P7601-7 | 7 | I²C SIRIAL CLOCK
P7601-8 | 8 | TUNER 12V ON Ⓗ
P7501
1 | GND | JA-1
2 | SI DATA | JA-2
3 | RCLR | JA-3
4 | RST | JA-4
5 | — | JA-5
6 | DAC | JA-6
7 | COM Ⓛ | JA-7
8 | COM Ⓗ | JA-8
9 | AC 5V | JA-9
10 | AC 5V | JA-10
11 | REG -29V | JA-11
P7502
1 | REG 6V | JB-1
2 | NON SW 12V | JB-2
3 | BACK UP | JB-3
4 | GND | JB-4
5 | CH PRESET VR | JB-5
6 | 30V | JB-6
7 | VL | JB-7
8 | U | JB-8
9 | AFC DEF | JB-9
10 | AUDIO DEF | JB-10
11 | SI CLOCK | JB-11
P7503
1 | VTR(1) | P6202-1
2 | VTR(2) | P6202-2
3 | EJECT (1) | P6202-3
4 | EJECT (2) | P6202-4
5 | SIMUL Ⓛ | P6202-5
6 | IR DATA | P6202-6
7 | REC MUTE Ⓗ | P6202-7
8 | — | P6202-8
9 | — | P6202-9
P7504
1 | CAMERA Ⓗ | BP4002-1
2 | AV Ⓗ | BP4002-2
3 | MPX FIL ON | BP4002-3
4 | TUNER Ⓗ | BP4002-4
5 | REC MUTE Ⓗ | BP4002-5
6 | DUB LED | BP4002-6
SW7534 REC MUTE
R7504 1K
SW7535 ESD14314 MPX FIL
SW7536 VSS0149 INPUT SELECT
AV SIMUL TUNER LINE
C.RESET SW7504
C.MEMORY SW7503
SLSP DN SW7533
SLSP UP SW7532
SLOW SW7531
X2 SW7530
F.ADV SW7529
PLAY SW7528
A.DUB SW7527
REC SW7526
PAUSE SW7525
FF SW7524
REW SW7523
STOP SW7522
VPS SW7507
DN SW7519
UP SW7518
PRO SW7505
CLOCK SW7506
T.SET SW7521 ESD14314
PRESET SW7516
AFC SW7515
NEXT SW7512
S DN SW7514
S UP SW7513
CH DN SW7502
CH UP SW7501
CLEAR SW7517
OFF DN SW7511
OFF UP SW7510
ON DN SW7509
ON UP SW7508
D7507 ~ D7513 : MA165
TIMER CLOCK
SUB TIMER C.B.A. (VEP07336A)
TIMER C.B.A. (VEP07335A)
A B C D E F G
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IN THE FOLLOWING CONDITION.
1) MODE SELECTOR: CLOCK
2) SELECTION TIME: SUN 0:00

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.


MN4066B
MN1220
AN6913
MN15881VDL
MN1514VDM
MN15261VDE
MN1280
2SD637
47K
B
C
E
47K
DTC144EA
E C B

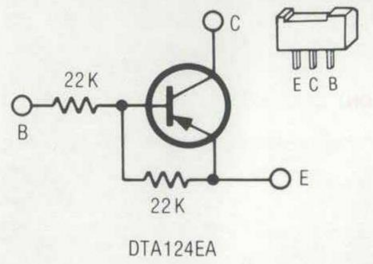
3-33. TIMER CIRCUIT BOARD (VEP07335A) & SUB TIMER CIRCUIT BOARD (VEP07336A)

TIMER & SUB TIMER SCHEMATIC	
Transistors	
Q7501	G-1
Q7502	D-6
Transistors & Resistors	
QR7501	D-7
QR7502	C-7
QR7503	G-2
QR7504	C-6
QR7505	C-2
QR7506	E-3
Integrated Circuits	
IC7501	D-10
IC7502	G-2
IC7503	D-4
IC7504	E-8
IC7505	F-1
IC7506	D-2
Test Points	
TP7506	G-8
TP7507	G-8
TP7508	G-8
TP7509	B-12
Adjustments	
C7502	F-11
Connectors	
P7501	F-15
P7502	E-15
P7503	D-15
P7504	D-15
P7505	B-1
P7508	G-7
P7509	B-7
P7510	G-7
P7511	B-7

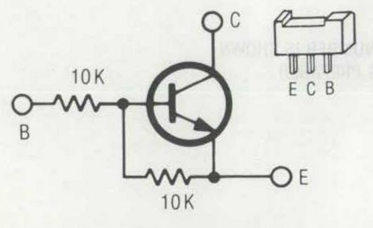
ADDRESS INFORMATION

TIMER & SUB TIMER CIRCUIT BOARD	
Transistors	
Q7501	A-2
Q7502	A-2
Transistors & Resistors	
QR7501	D-4
QR7502	D-4
QR7503	A-2
QR7504	A-3
QR7505	B-2
QR7506	A-3
Integrated Circuits	
IC7501	D-3
IC7502	A-2
IC7503	A-3
IC7504	D-4
IC7505	A-1
IC7506	A-2
Test Points	
TP7506	C-1
TP7507	C-2
TP7508	C-2
TP7509	C-2
Adjustments	
C7502	C-2
Connectors	
P7501	D-3
P7502	D-2
P7503	B-5
P7504	B-2
P7505	B-4
P7508	B-3
P7509	B-3
P7510	B-3
P7511	B-3

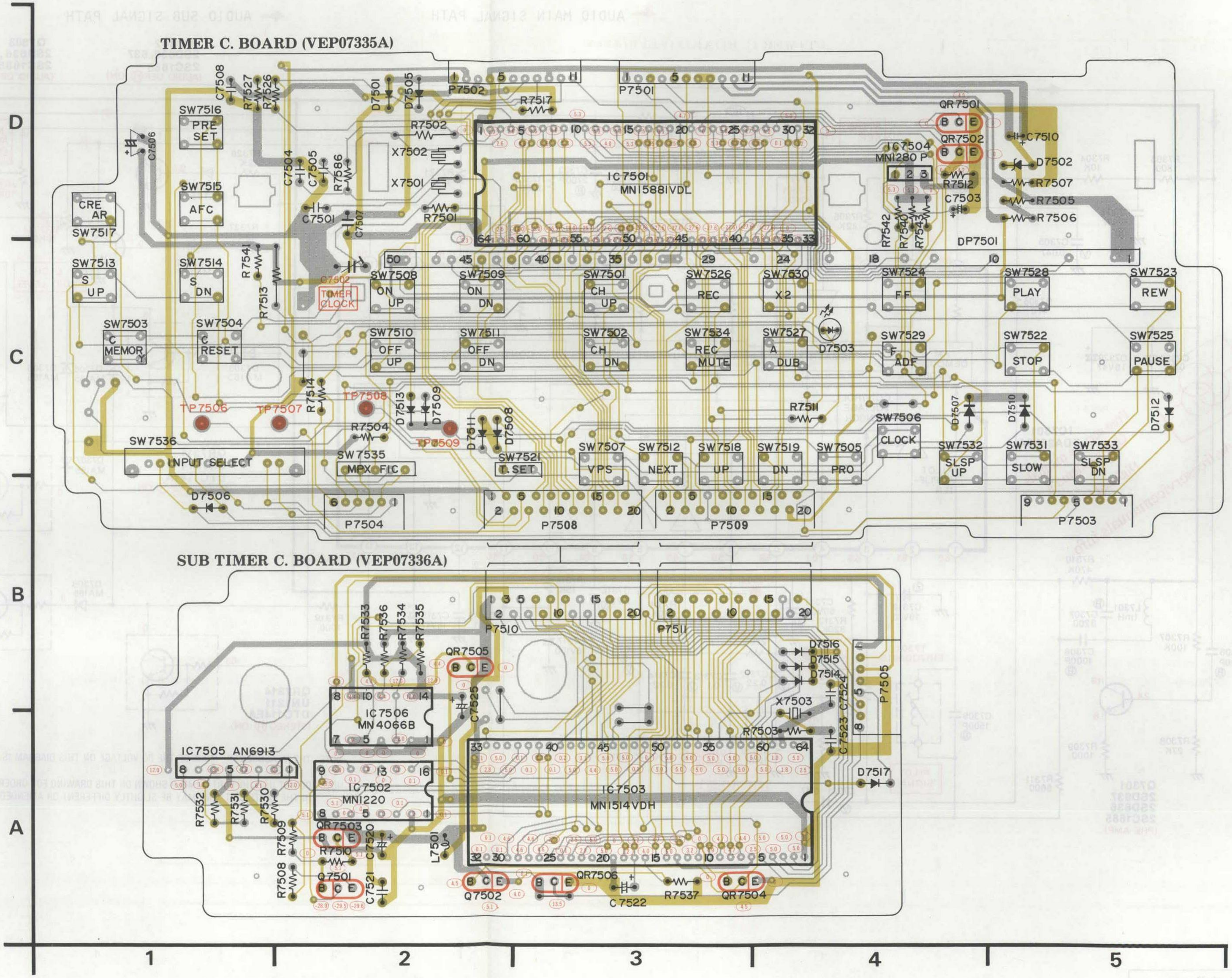
ADDRESS INFORMATION


C
22K
B
22K
E
E C B

DTA124EA

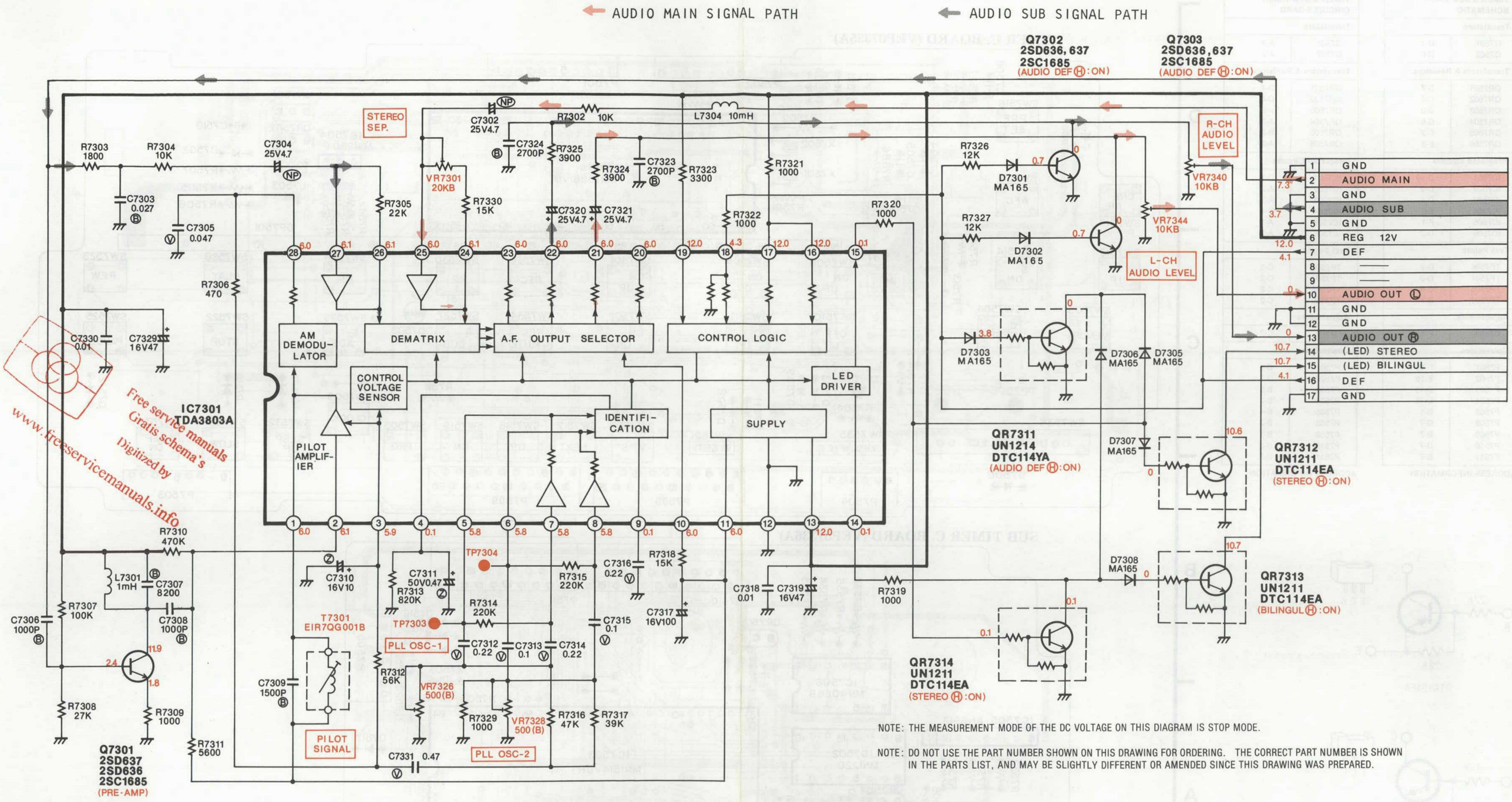

C
10K
B
10K
E
E C B

DTC114EA


TIMER C. BOARD (VEP07335A)
SUB TIMER C. BOARD (VEP07336A)
D
C
B
A
1
2
3
4
5
P7502
P7501
IC7501
MN15881VDL
IC7504
MN1280 P
QR7501
QR7502
C7510
D7502
R7507
R7505
R7506
R7512
C7503
DP7501
X7502
X7501
R7502
R7517
R7501
C7508
R7527
R7526
D7501
D7505
C7504
C7505
R7586
C7501
C7507
C7506
C7502
TIMER CLOCK
SW7516 PRE SET
SW7515 AFC
SW7517 CRE AR
SW7513 S UP
SW7514 S DN
SW7508 ON UP
SW7509 ON DN
SW7501 CH UP
SW7526 REC
SW7530 ×2
SW7524 FF
SW7528 PLAY
SW7523 REW
SW7503 C MEMORY
SW7504 C RESET
SW7510 OFF UP
SW7511 OFF DN
SW7502 CH DN
SW7534 REC MUTE
SW7527 A DUB
D7503
SW7529 F ADF
SW7522 STOP
SW7525 PAUSE
R7541
R7513
R7514
TP7506
TP7507
TP7508
TP7509
R7504
D7513
D7509
D7511
D7508
R7511
SW7506 CLOCK
D7507
D7510
D7512
SW7536 INPUT SELECT
SW7535 MPX FIC
SW7521 T. SET
SW7507 VPS
SW7512 NEXT
SW7518 UP
SW7519 DN
SW7505 PRO
SW7532 SLSP UP
SW7531 SLOW
SW7533 SLSP DN
D7506
P7504
P7508
P7509
P7503
R7542
R7540
R7543
P7510
P7511
R7533
R7536
R7534
R7535
QR7505
IC7506
MN 4066B
C7525
D7516
D7515
D7514
P7505
C7524
X7503
C7523
R7503
IC7505 AN6913
IC7502
MN1220
IC7503
MN1514VDH
D7517
R7532
R7531
R7530
R7509
R7508
QR7503
R7510
Q7501
C7520
C7521
L7501
Q7502
QR7506
C7522
R7537
QR7504
B C E

4/17/2018

3-34. DECODER PACK SCHEMATIC DIAGRAM

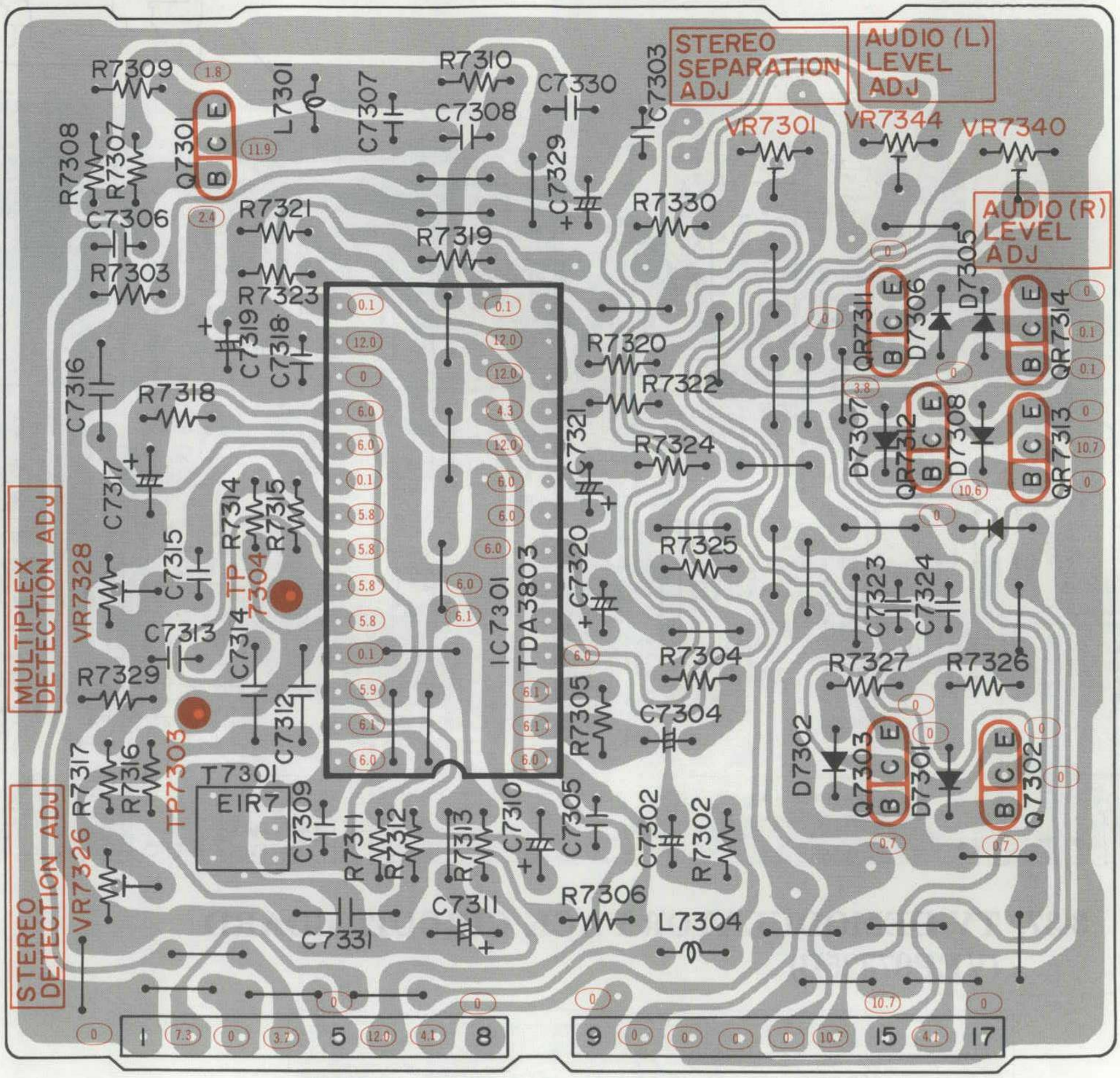

AUDIO MAIN SIGNAL PATH
AUDIO SUB SIGNAL PATH
Q7302
2SD636, 637
2SC1685
(AUDIO DEF Ⓗ:ON)
Q7303
2SD636, 637
2SC1685
(AUDIO DEF Ⓗ:ON)
STEREO SEP.
R-CH AUDIO LEVEL
L-CH AUDIO LEVEL
R7303 1800
R7304 10K
C7304 25V4.7
NP
C7302 25V4.7
R7302 10K
L7304 10mH
C7324 2700P
R7325 3900
C7323 2700P
R7324 3900
R7323 3300
R7321 1000
R7326 12K
D7301 MA165
VR7340 10KB
C7303 0.027
C7305 0.047
VR7301 20KB
R7305 22K
R7330 15K
C7320 25V4.7
C7321 25V4.7
R7322 1000
R7320 1000
R7327 12K
D7302 MA165
VR7344 10KB
R7306 470
C7330 0.01
C7329 16V47
AM DEMODU-LATOR
DEMATRIX
A.F. OUTPUT SELECTOR
CONTROL LOGIC
CONTROL VOLTAGE SENSOR
LED DRIVER
IDENTIFI-CATION
SUPPLY
PILOT AMPLIF-IER
IC7301
TDA3803A
D7303 MA165
D7306 MA165
D7305 MA165
D7307 MA165
D7308 MA165
QR7311
UN1214
DTC114YA
(AUDIO DEF Ⓗ:ON)
QR7312
UN1211
DTC114EA
(STEREO Ⓗ:ON)
QR7313
UN1211
DTC114EA
(BILINGUL Ⓗ:ON)
QR7314
UN1211
DTC114EA
(STEREO Ⓗ:ON)
1 GND
2 AUDIO MAIN
3 GND
4 AUDIO SUB
5 GND
6 REG 12V
7 DEF
8
9
10 AUDIO OUT Ⓛ
11 GND
12 GND
13 AUDIO OUT Ⓡ
14 (LED) STEREO
15 (LED) BILINGUL
16 DEF
17 GND
R7310 470K
L7301 1mH
C7307 8200
C7306 1000P
R7307 100K
C7308 1000P
R7308 27K
R7309 1000
R7311 5600
Q7301
2SD637
2SD636
2SC1685
(PRE-AMP)
C7310 16V10
C7311 50V0.47
R7313 820K
TP7304
R7315 220K
C7316 0.22
R7318 15K
C7318 0.01
C7319 16V47
R7319 1000
C7317 16V100
R7314 220K
C7315 0.1
T7301
EIR7QG001B
TP7303
PLL OSC-1
C7312 0.22
C7313 0.1
C7314 0.22
C7309 1500P
R7312 56K
VR7326 500(B)
R7329 1000
VR7328 500(B)
R7316 47K
R7317 39K
PILOT SIGNAL
C7331 0.47
PLL OSC-2

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

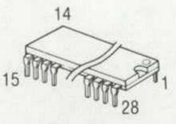
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

Back Page:
TIMER Section

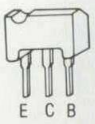
3-35. DECODER PACK CIRCUIT BOARD (VEP07326A)


STEREO SEPARATION ADJ
AUDIO (L) LEVEL ADJ
AUDIO (R) LEVEL ADJ
MULTIPLEX DETECTION ADJ
STEREO DETECTION ADJ
VR7301
VR7344
VR7340
VR7328
VR7326
IC7301 TDA3803
T7301 EIR7
TP7304
TP7303
Q7301
Q7302
Q7303
QR7311
QR7312
QR7313
QR7314
D7301
D7302
D7305
D7306
D7307
D7308
L7301
L7304
R7302
R7303
R7304
R7305
R7306
R7307
R7308
R7309
R7310
R7311
R7312
R7313
R7314
R7315
R7316
R7317
R7318
R7319
R7320
R7321
R7322
R7323
R7324
R7325
R7326
R7327
R7329
R7330
C7302
C7304
C7305
C7306
C7307
C7308
C7309
C7310
C7311
C7312
C7313
C7314
C7315
C7316
C7317
C7318
C7319
C7320
C7321
C7323
C7324
C7329
C7330
C7331
C7303
B C E
1
5
8
9
15
17

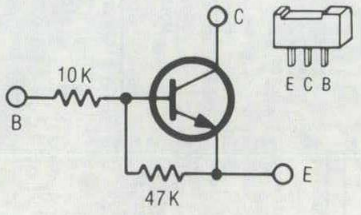
ICs & TRANSISTORs INFORMATION



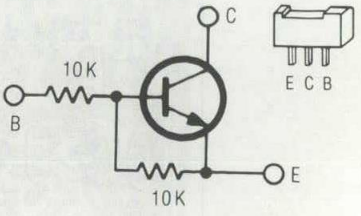
TDA3803A



2SD636


C
10K
B
47K
E
E C B

DTC114YA


C
10K
B
10K
E
E C B

DTC114EA

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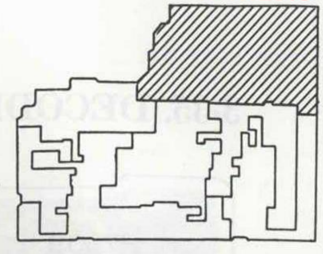
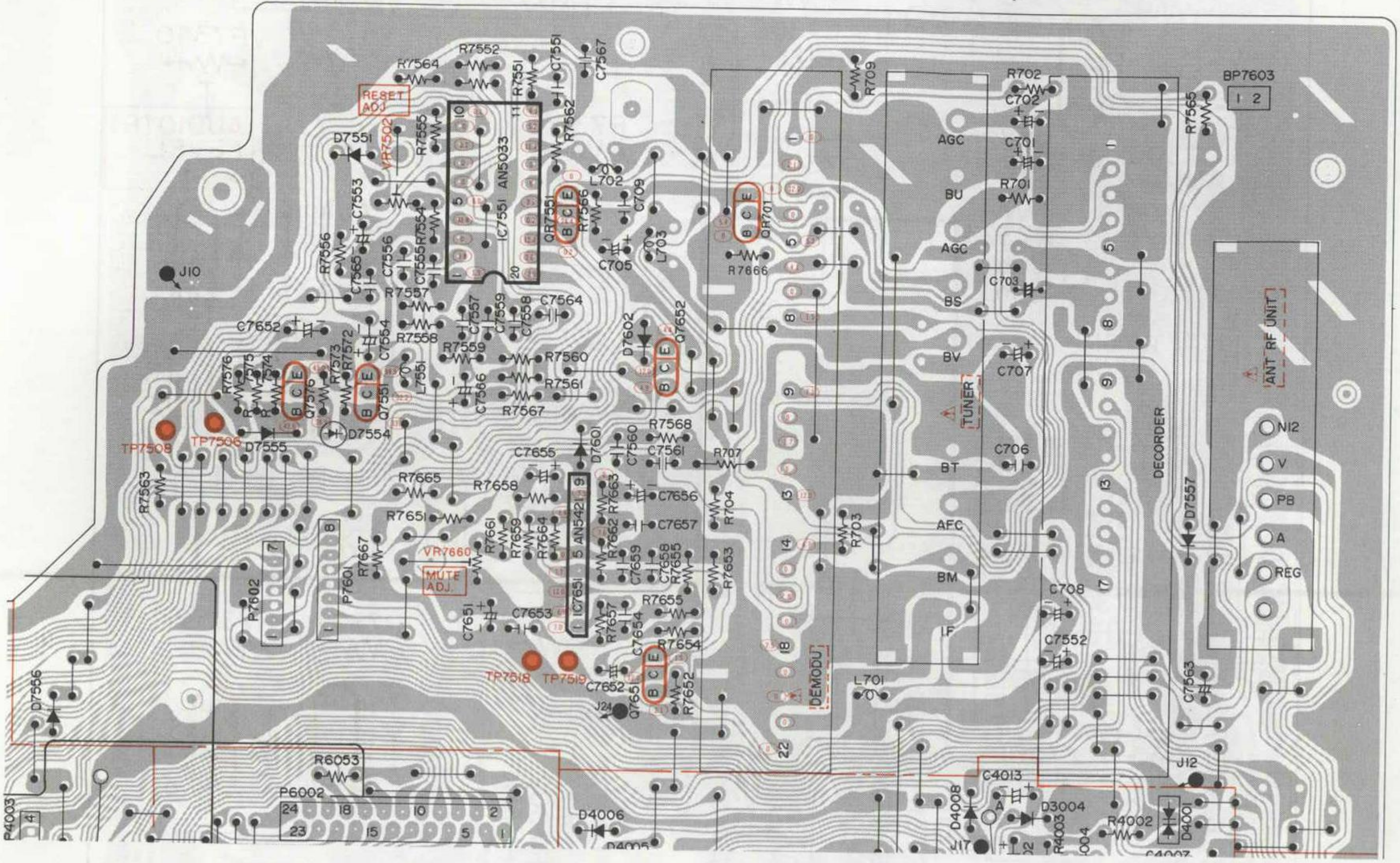
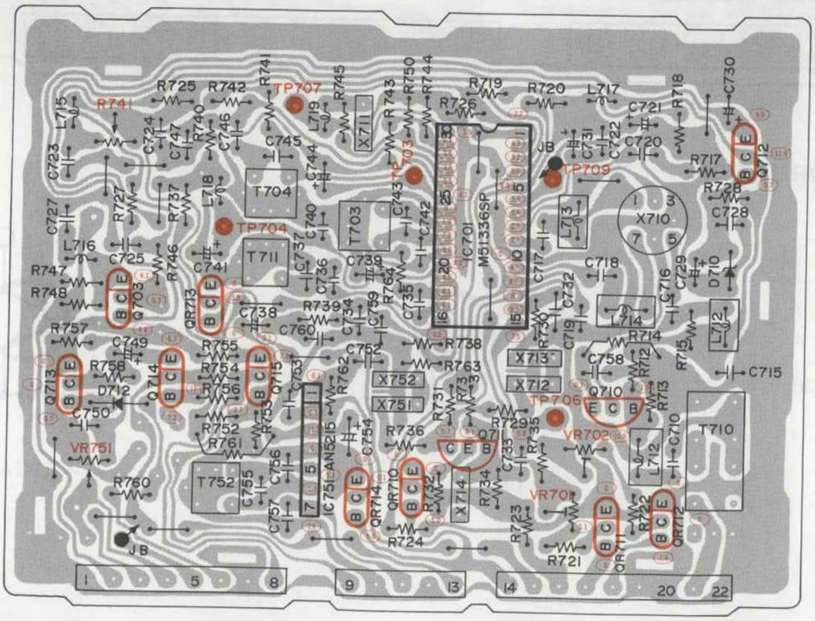
3-36. RF & BAND SELECT Section In Main Circuit Board (VEP03309E: NV-H70EG) (VEP03309F: NV-H70EV)



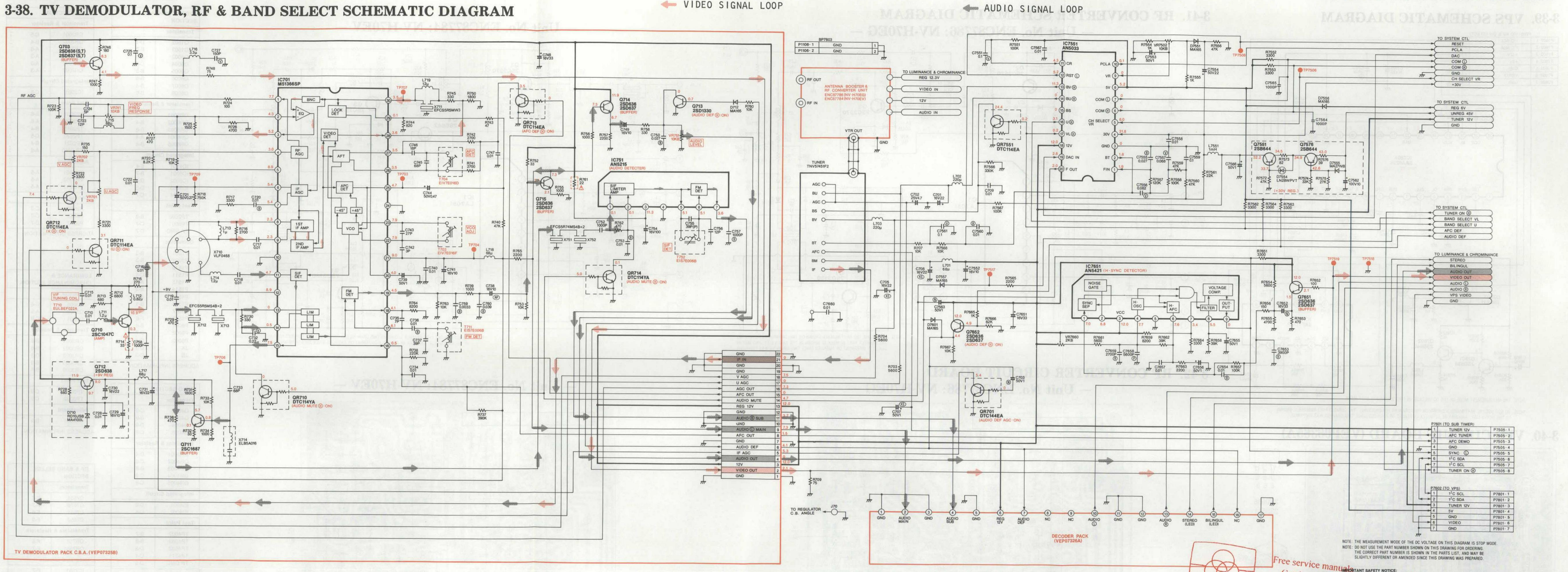

RESET ADJ.
R7564
R7552
R7551
C7551
C7567
D7551
VR7502
R7555
IC7551 AN5033
R7562
L702
C709
R7566
QR7551
C705
L703
R709
QR701
R7666
R702
C702
C701
R701
AGC
BU
AGC
BS
BV
BT
AFC
BM
IF
C703
C707
TUNER
C706
C708
C7552
C7563
BP7603
R7565
ANT RF UNIT
DECORDER
D7557
N12
V
PB
A
REG
J10
R7556
C7565
C7556
C7555
R7554
C7553
R7557
R7558
C7557
C7559
C7558
C7564
C7652
C7554
L7551
R7559
R7560
R7561
R7567
C7566
R7576
R7575
R7574
R7573
R7572
Q7576
Q7551
D7554
TP7508
TP7506
D7555
R7563
D7602
Q7652
R7568
C7561
C7560
D7601
C7655
R7665
R7658
R7663
C7656
C7657
R7651
R7661
R7659
R7664
R7662
IC7651 AN5421
C7659
C7658
R7655
R7656
R7653
R7654
R7657
C7654
C7653
C7651
VR7660
MUTE ADJ.
R7667
P7601
R7602
TP7518
TP7519
C7652
J24
Q7651
R7652
R707
R704
R703
DEMODU
L701
D7556
R6053
P6002
24
18
10
2
23
15
5
1
P4003
D4006
D4005
D4008
C4013
J12
D3004
R4003
R4002
D4001
J17
C4007

3-37. TV DEMODULATOR PACK CIRCUIT BOARD (VEP07325B)


R725
R742
R741
TP707
R745
R743
R750
R744
R719
R720
L717
R718
C730
R741
L715
C724
C747
R740
C746
C745
L719
X711
R726
C721
C731
C722
C720
Q712
R717
R728
C728
C723
R727
R737
L718
T704
C744
C740
TP703
C743
C742
IC701 M51336SP
JB
TP709
X710
L713
C727
L716
C725
R746
TP704
T711
C737
C736
T703
C739
C741
C717
C718
C716
C729
D710
R747
R748
Q703
QR713
C738
R739
C734
C759
C735
R764
C732
L714
C719
R730
L712
R757
C749
R755
C760
C752
R738
R763
X713
R714
R712
C758
R715
C715
Q713
R758
Q714
R754
Q715
C753
R762
X752
X712
Q710
R713
D712
R756
X751
R731
R733
R729
TP706
VR702
C750
R752
R753
IC751 AN5215
R736
Q711
R735
T710
VR751
R761
C754
L712
C710
R760
T752
C755
C756
C757
QR714
QR710
R732
X714
R734
C733
VR701
R723
R721
QR711
R722
QR712
R724
JB
1
5
8
9
13
14
20
22

4/17/2018

3-38. TV DEMODULATOR, RF & BAND SELECT SCHEMATIC DIAGRAM

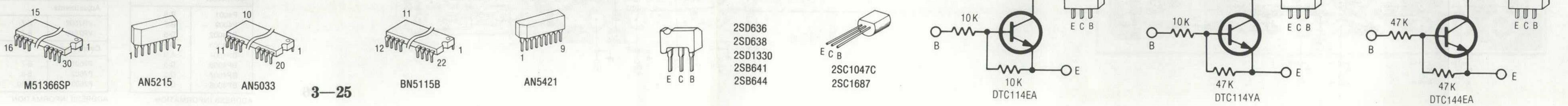

VIDEO SIGNAL LOOP
AUDIO SIGNAL LOOP
Q703 2SD636(S,T) 2SD637(S,T) (BUFFER)
IC701 M51366SP
BNC
EQ
LOCK DET
VIDEO DET
RF AGC
AFT
IF AGC
APC DET
VCO
1ST IF AMP
2ND IF AMP
S/F DET
FM DET
LIM
QR712 DTC114EA (V ⓐ ON)
QR711 DTC114EA (U ⓐ ON)
Q710 2SC1047C (AMP)
Q712 2SD638 (+9V REG)
Q711 2SC1687 (BUFFER)
QR710 DTC114YA (AUDIO MUTE ⓑ ON)
QR713 DTC114EA (AFC DEF ⓑ ON)
Q714 2SD638 2SD637 (BUFFER)
Q713 2SD1330 (AUDIO DEF ⓑ ON)
Q715 2SD636 2SD637 (BUFFER)
IC751 AN5215 (AUDIO DETECTOR)
S/F LIMITER AMP
FM DET
QR714 DTC114YA (AUDIO MUTE ⓑ ON)
EFCS5R74MS4B×2
EFCS5R5MS4B×2
X710 VLF046B
T710 EUL8EF022A (VIF TUNING COIL)
T704 EIV7E016D
T703 EIV7E016F
T752 EIS7E006B
T771 EIS7E006B (FM DET)
X714 ELB5A016
TUNER TNV5761F2
ANTENNA BOOSTER & RF CONVERTER UNIT ENC8778S (NV-H70EG) ENC8778A (NV-H70EV)
RF OUT
RF IN
VTR OUT
TO LUMINANCE & CHROMINANCE
REG 12.3V
VIDEO IN
12V
AUDIO IN
IC7551 AN5033
QR7551 DTC114EA
Q7551 2SB644
Q7576 2SB644
(+30V REG.)
IC7651 AN5421 (H-SYNC DETECTOR)
NOISE GATE
SYNC SEP
H-OSC
H-AFC
FILTER
VOLTAGE COMP
OUT-PUT
Q7651 2SD636 2SD637 (BUFFER)
Q7652 2SD636 2SD637 (AUDIO DEF ⓑ ON)
QR701 DTC144EA (AUDIO DEF AGC ⓑ ON)
TO SYSTEM CTL
RESET
PCLA
DAC
COM ①
COM ②
GND
CH SELECT VR
+30V
REG 6V
UNREG 45V
TUNER 12V
GND
TUNER ON ⓑ
BAND SELECT VL
BAND SELECT U
AFC DEF
AUDIO DEF
TO LUMINANCE & CHROMINANCE
STEREO
BILINGUAL
AUDIO OUT
VIDEO OUT
AUDIO Ⓛ
AUDIO Ⓡ
VPS VIDEO
GND
P7601 (TO SUB TIMER)
TUNER 12V P7505·1
AFC TUNER P7505·2
AFC DEMO P7505·3
GND P7505·4
SYNC P7505·5
I²C SDA P7505·6
I²C SCL P7505·7
TUNER ON ⓑ P7505·8
P7602 (TO VPS)
I²C SCL P7801·1
I²C SDA P7801·2
TUNER 12V P7801·3
5V P7801·4
GND P7801·5
VIDEO P7801·6
GND P7801·7
GND
IF IN
V AGC
U AGC
AGC OUT
AFC OUT
AUDIO MUTE
REG 12V
AUDIO Ⓢ SUB
AUDIO Ⓜ MAIN
AUDIO DEF
IF AGC
AUDIO OUT
VIDEO OUT
TO REGULATOR C.B. ANGLE
DECODER PACK (VEP07326A)
GND
AUDIO MAIN
AUDIO SUB
REG 12V
AUDIO DEF
NC
STEREO (LED)
BILINGUAL (LED)
TV DEMODULATOR PACK C.B.A. (VEP07325B)

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

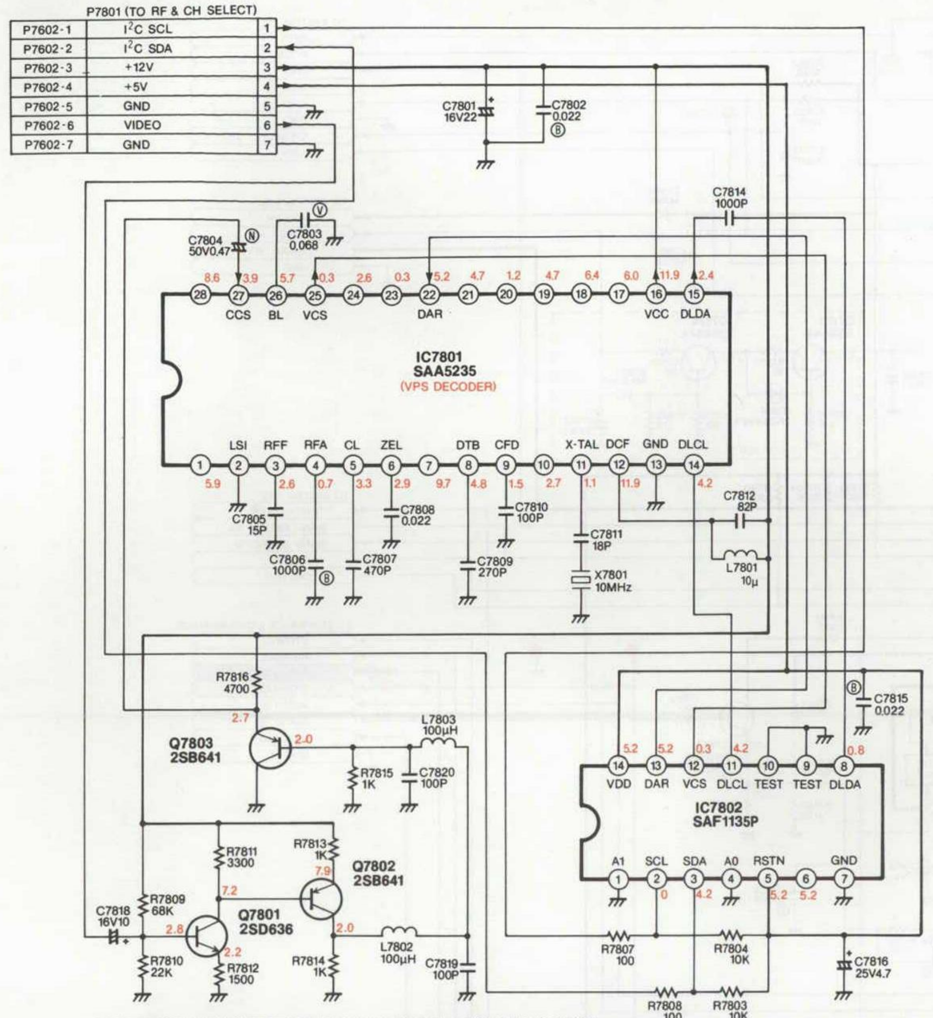
ICs & TRANSISTORs INFORMATION


15
16
1
30
M51366SP
1
7
AN5215
10
11
1
20
AN5033
11
12
1
22
BN5115B
1
9
AN5421
E C B
2SD636
2SD638
2SD1330
2SB641
2SB644
E C B
2SC1047C
2SC1687
10K
B
C
E
10K
E C B
DTC114EA
10K
B
C
E
47K
E C B
DTC114YA
47K
B
C
E
47K
E C B
DTC144EA

Next Page:
VPS & RF CONVERTER Section

4/17/2018

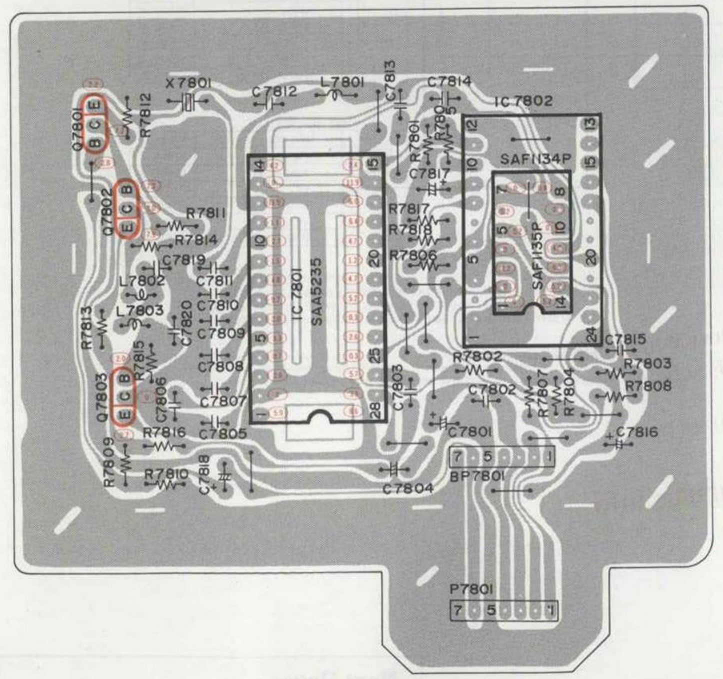
3-39. VPS SCHEMATIC DIAGRAM

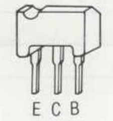

P7801 (TO RF & CH SELECT)
P7602-1 I²C SCL
P7602-2 I²C SDA
P7602-3 +12V
P7602-4 +5V
P7602-5 GND
P7602-6 VIDEO
P7602-7 GND
IC7801
SAA5235
(VPS DECODER)
IC7802
SAF1135P
Q7803 2SB641
Q7802 2SB641
Q7801 2SD636
X7801 10MHz
L7801 10μ

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE ON THIS DIAGRAM IS STOP MODE.

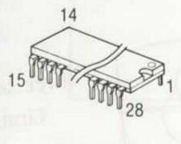
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

3-40. VPS CIRCUIT BOARD (VEP06365A)

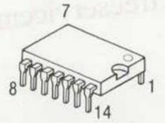

X7801
L7801
C7814
IC7802
SAF1135P
IC7801
SAA5235
P7801



2SD636
2SB641



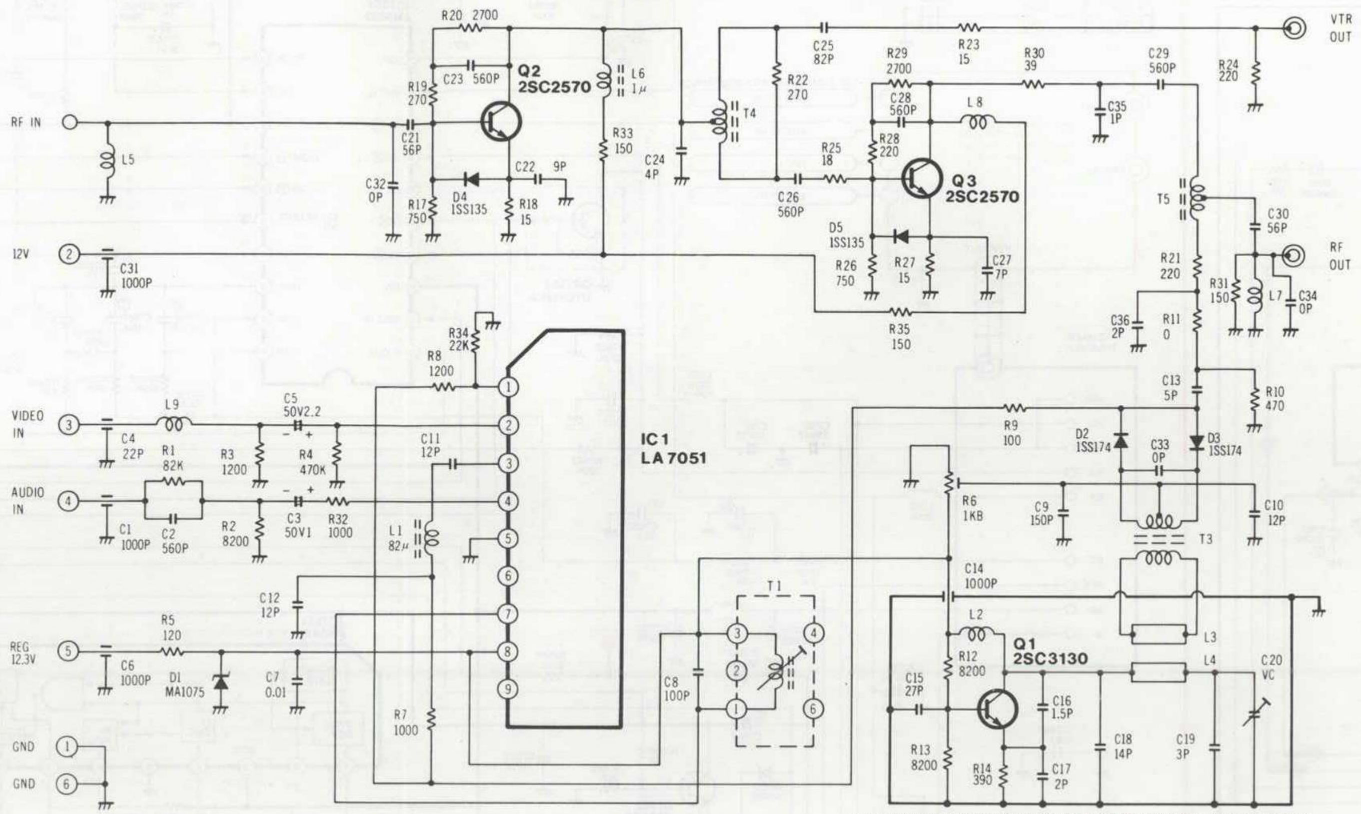
SAA5235



SAF1135P

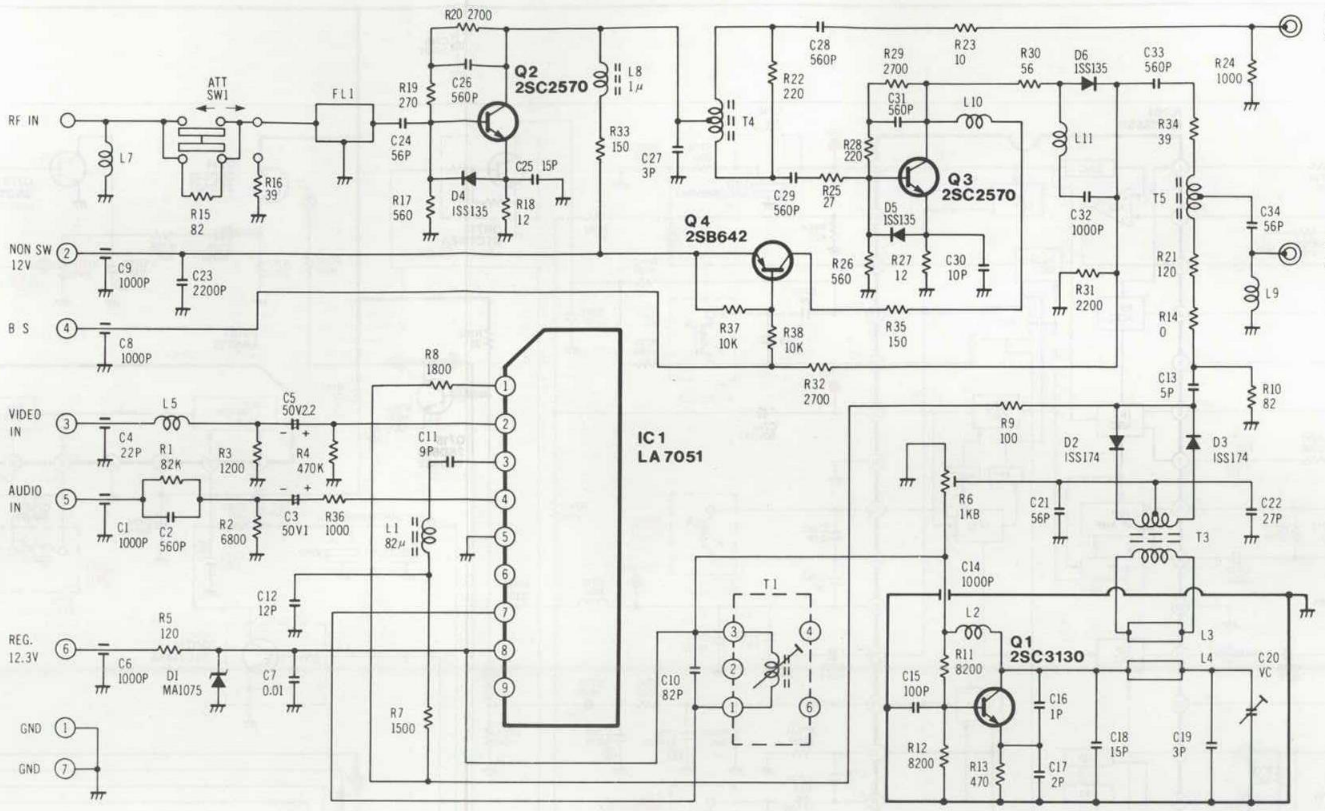
3-41. RF CONVERTER SCHEMATIC DIAGRAM

— Unit No. ENC87786: NV-H70EG —


RF IN
VTR OUT
RF OUT
12V
VIDEO IN
AUDIO IN
REG 12.3V
GND
Q2 2SC2570
Q3 2SC2570
Q1 2SC3130
IC1 LA7051
T1
T3
T4
T5

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

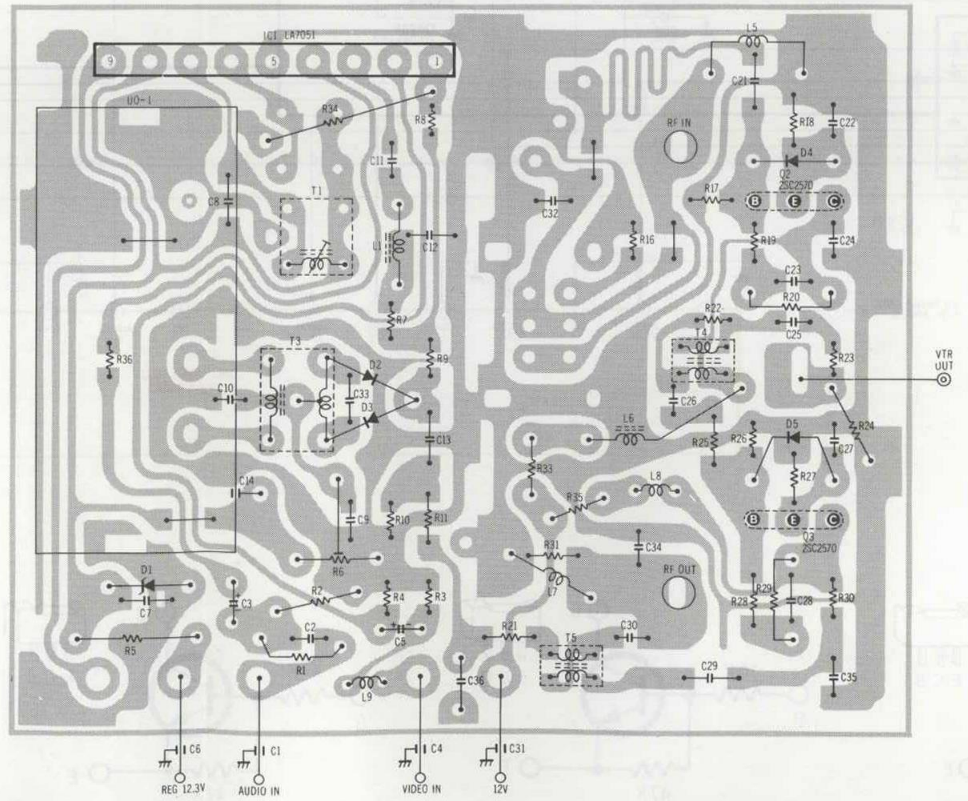
— Unit No. ENC87784: NV-H70EV —


RF IN
ATT SW1
FL1
VTR OUT
RF OUT
NON SW 12V
B S
VIDEO IN
AUDIO IN
REG. 12.3V
GND
Q2 2SC2570
Q3 2SC2570
Q4 2SB642
Q1 2SC3130
IC1 LA7051
T1
T3
T4
T5

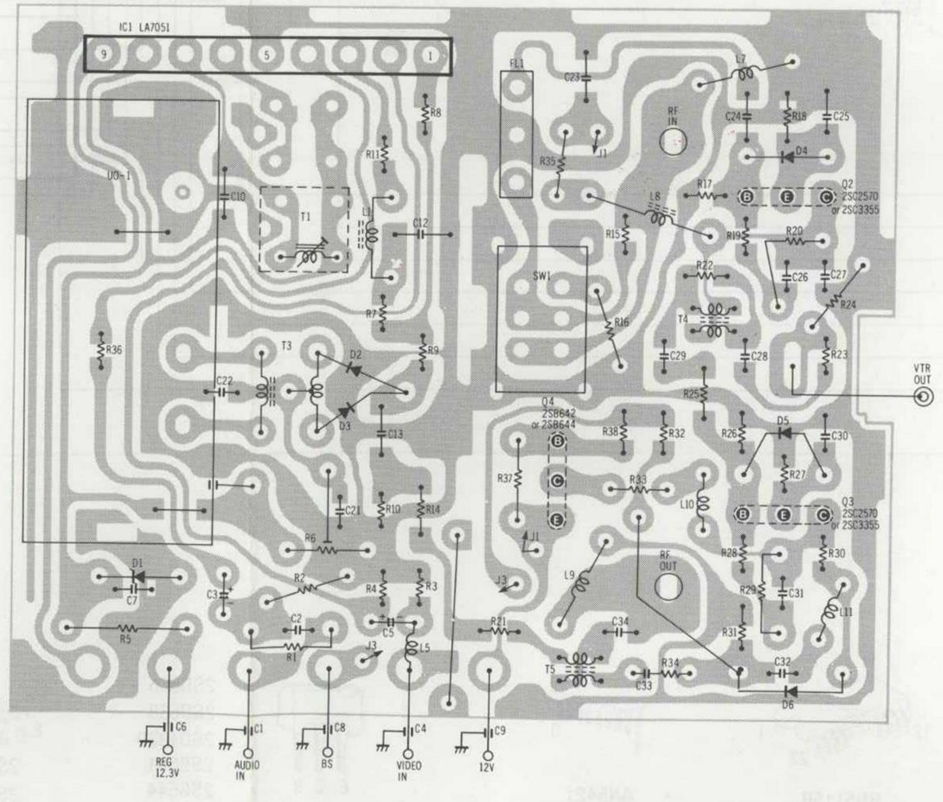
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

3-42. RF CONVERTER CIRCUIT BOARD

— Unit No. ENC87786: NV-H70EG —


IC1 LA7051
RF IN
VTR OUT
RF OUT
REG 12.3V
AUDIO IN
VIDEO IN
12V

— Unit No. ENC87784: NV-H70EV —


IC1 LA7051
SW1
RF IN
VTR OUT
RF OUT
REG 12.3V
AUDIO IN
BS
VIDEO IN
12V

MAIN CIRCUIT BOARD ADDRESS INFORMATION

SYSTEM CONTROL SECTION	
Transistor	
Q1502	D-1
Q1503	E-2
Q6002	B-6
Q6004	C-6
Q6005	B-5
Q6006	B-5
Q6007	B-4
Q6008	B-6
Transistor & Resistor	
QR6001	C-6
QR6002	B-4
QR6003	B-6
QR6004	A-4
QR6005	B-4
Integrated Circuit	
IC1501	E-4
IC6001	B-7
IC6002	D-7
IC6003	D-5
IC6004	C-7
Test Point	
TP2008	B-3
TP6001	C-7
TP GND	C-7
Connector	
P1001	B-3
P1002	B-3
P1510	E-3
P1511	C-1
P1513	A-1
P1514	B-2
P1515	A-2
P1516	B-1
P1517	C-1
P1518	F-6
P6001	B-6
P6002	D-7
P6003	C-4
JA	D-3
JB	C-3

ADDRESS INFORMATION

AUDIO SECTION	
Transistor	
Q4002	C-9
Q4003	B-9
Q4004	D-9
Q4005	C-8
Transistor & Resistor	
QR4001	D-4
QR4002	C-8
QR4003	B-8
QR4004	C-9
QR4005	C-8
Integrated Circuit	
IC4001	D-9
IC4002	C-8
Test Point	
TP4002	B-7
TP4003	B-8
TP4502	D-8
TP4511	C-4
TP GND	D-5
Adjustment	
VR4001	D-8
VR4002	D-8
VR4503	D-4
VR4505	D-4
VR4510	D-4
Connector	
P4001	B-8
P4009	B-7
BP4002	D-5
BP4003	D-6
BP4004	A-9
BP4006	D-5
BP4007	D-5
BP4008	D-5

ADDRESS INFORMATION

SERVO SECTION	
Transistor & Resistor	
QR2001	C-5
QR2002	B-4
QR2004	A-8
QR2005	A-3
QR2006	A-3
QR2007	A-3
Integrated Circuit	
IC2001	C-5
Test Point	
TP2001	A-6
TP2002	A-6
TP2015	B-4
TP2020	C-5
TP2021	B-4
TP GND	A-8
Adjustment	
VR2001	A-5
VR2002	A-5
VR2011	A-5
Connector	
P2002	C-3
P2003	C-3
P6002	D-7

ADDRESS INFORMATION

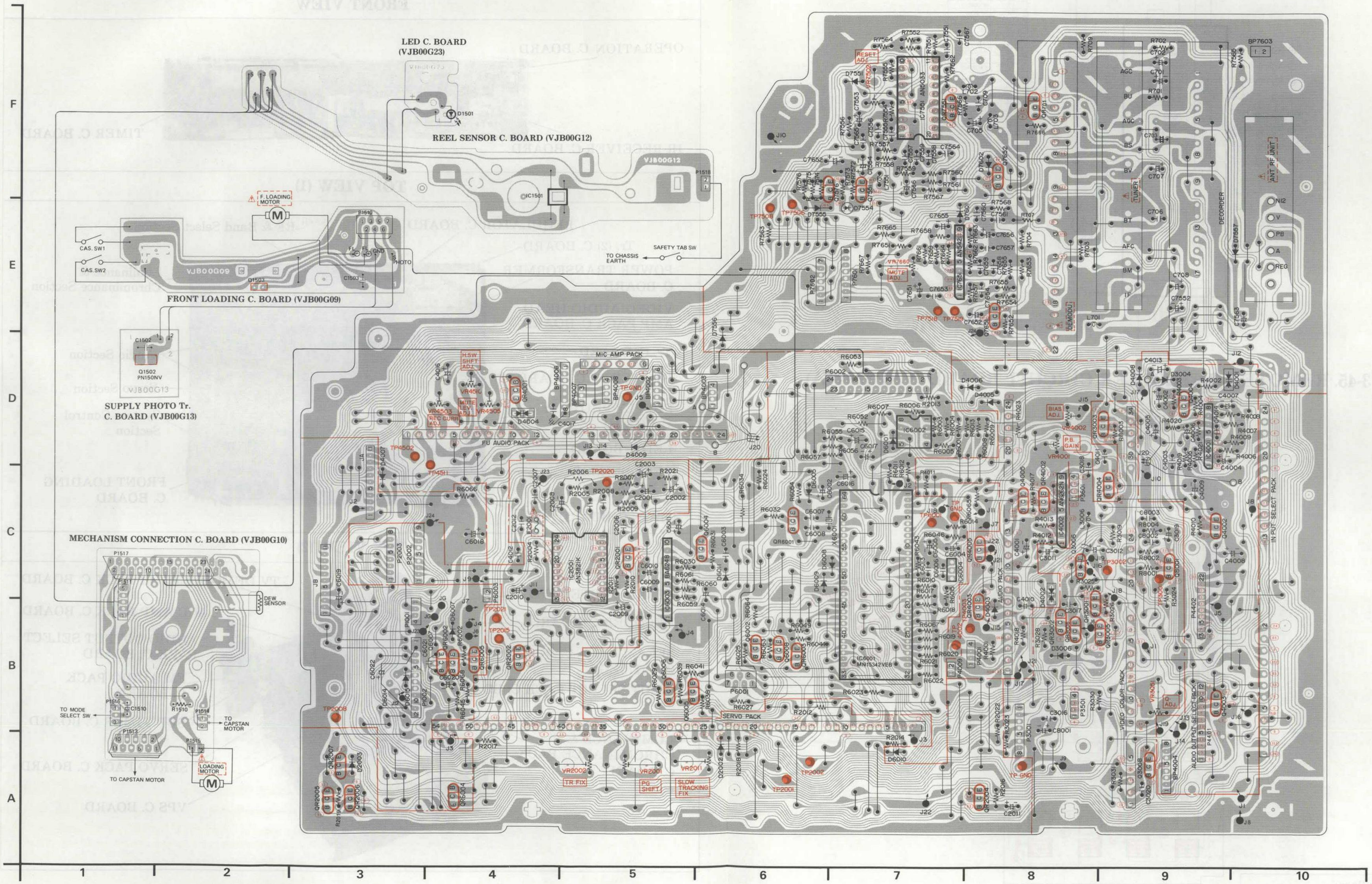
LUMINANCE & CHROMINANCE SECTION	
Transistor	
Q3006	C-8
Q3008	A-9
Q8001	C-9
Transistor & Resistor	
QR3001	B-8
QR3002	B-8
QR3003	D-8
QR3005	B-9
QR3006	B-8
Test Point	
TP3001	C-9
TP3002	C-9
Adjustment	
VR3051	B-9

ADDRESS INFORMATION

RF & BAND SELECT SECTION	
Transistors	
Q7551	F-7
Q7576	F-7
Q7651	E-8
Q7652	F-8
Transistors & Resistors	
QR701	F-8
QR7551	F-7
Integrated Circuits	
IC7551	F-7
IC7651	E-7
Test Points	
TP7506	E-6
TP7508	E-6
TP7518	E-7
TP7519	E-7
Adjustments	
VR7502	F-7
VR7660	E-7
Connectors	
P7601	E-7
P7602	E-6
P7603	F-10

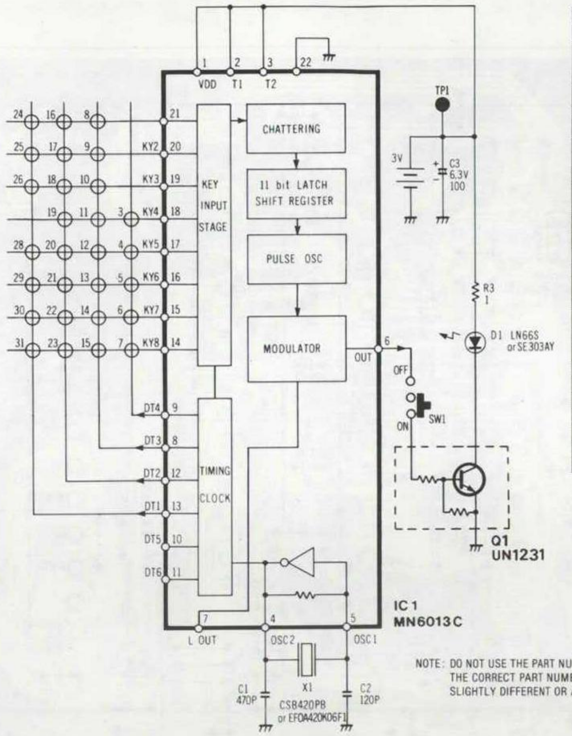
ADDRESS INFORMATION

3-43. MAIN CIRCUIT BOARD (VEP03309E: NV-H70EG) (VEP03309F: NV-H70EV)


LED C. BOARD (VJB00G23)
D1501
REEL SENSOR C. BOARD (VJB00G12)
VJB00G12
IC1501
P1518
F. LOADING MOTOR
CAS. SW1
CAS. SW2
VJB00G09
Q1503
C1503
PHOTO
GND
TO CHASSIS EARTH
SAFETY TAB SW
FRONT LOADING C. BOARD (VJB00G09)
C1502
Q1502 PN150NV
VJB00G13
SUPPLY PHOTO Tr. C. BOARD (VJB00G13)
MECHANISM CONNECTION C. BOARD (VJB00G10)
P1517
DEW SENSOR
TO MODE SELECT SW
P1516
C1510
R1510
P1514
TO CAPSTAN MOTOR
P1513
P1515
LOADING MOTOR
TO CAPSTAN MOTOR
RESET ADJ
IC7551 AN6033
TP7508
TP7506
VR7660
MUTE ADJ
TP7518
TP7513
TUNER
DEMODU
DECORDER
ANT RF UNIT
AGC
BU
BS
BV
BT
AFC
BM
IF
BP7603
N12
V
PB
A
REG
H.SW SHIFT ADJ
MIC AMP PACK
REC CURR ADJ
MUTE LEV ADJ
TP GND
FU AUDIO PACK
TP4502
TP4511
TP2020
IC2001 AN3821K
TP2021
TP2015
TP2008
IC6001 MN15342VEB
IC6002
SERVO PACK
VR2002 TR FIX
VR2001 PG SHIFT
VR2011 SLOW TRACKING FIX
TP2002
TP2001
TP GND
BIAS ADJ
VR4002
P.B. GAIN
VR4001
AUDIO PACK
TP3002
TP3001
VIDEO COLOR PACK
C ADJ
AUDIO OUTPUT SELECT PACK
IN PUT SELECT PACK
A
B
C
D
E
F
1
2
3
4
5
6
7
8
9
10

4/17/2018

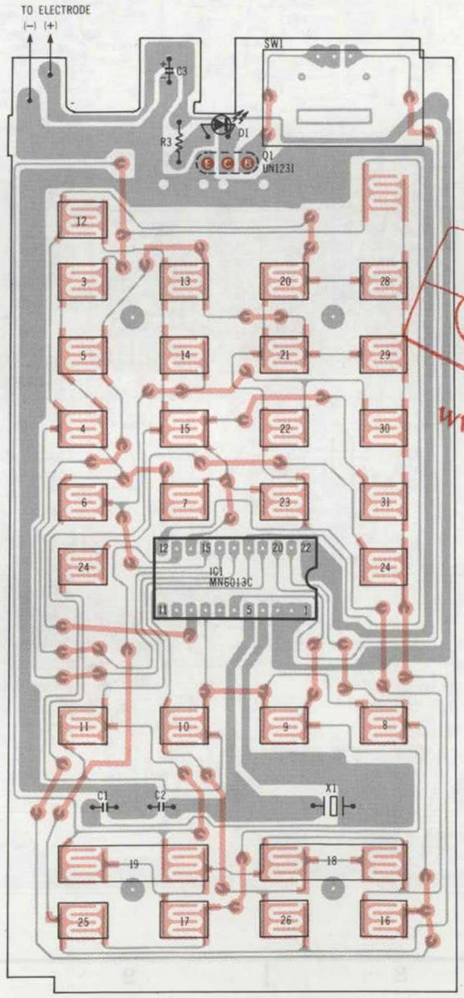
3-44. REMOTE CONTROLLER SCHEMATIC DIAGRAM


1
2
3
22
VDD
T1
T2
TP1
CHATTERING
11 bit LATCH SHIFT REGISTER
PULSE OSC
MODULATOR
KEY INPUT STAGE
TIMING CLOCK
KY2
KY3
KY4
KY5
KY6
KY7
KY8
DT4
DT3
DT2
DT1
DT5
DT6
OUT
3V
C3 6.3V 100
R3 1
D1 LN66S or SE303AY
OFF
ON
SW1
Q1 UN1231
IC1 MN6013C
L OUT
OSC2
OSC1
X1
C1 470P
C2 120P
CSB420PB or EFOA420K06F1

KEY NO.	FUNCTION
3	PROGRAM
4	SET DOWN
5	SET UP
6	NEXT
7	VPS
8	F.ADV
9	PAUSE/STILL
10	FF/SEARCH
11	REW/SEARCH
12	POWER
13	CH1
14	CH4
15	CH7
16	SLOW SPEED UP
17	SLOW SPEED DOWN
18	STOP
19	PLAY
20	CH2
21	CH5
22	CH8
23	CH0
24	REC
25	X2
26	SLOW
28	CH3
29	CH6
30	CH9
31	-/--

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

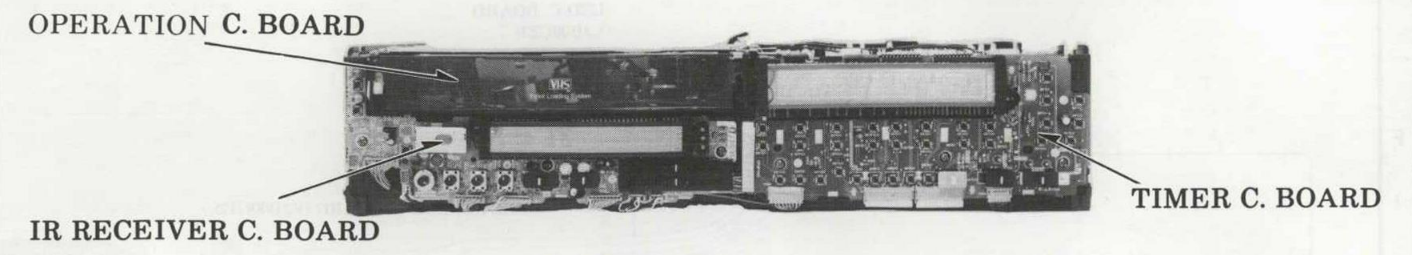
3-45. REMOTE CONTROLLER CIRCUIT BOARD (VEP22044A)


TO ELECTRODE
(–) (+)
SW1
C3
R3
D1
Q1 UN1231
IC1 MN6013C
C1
C2
X1

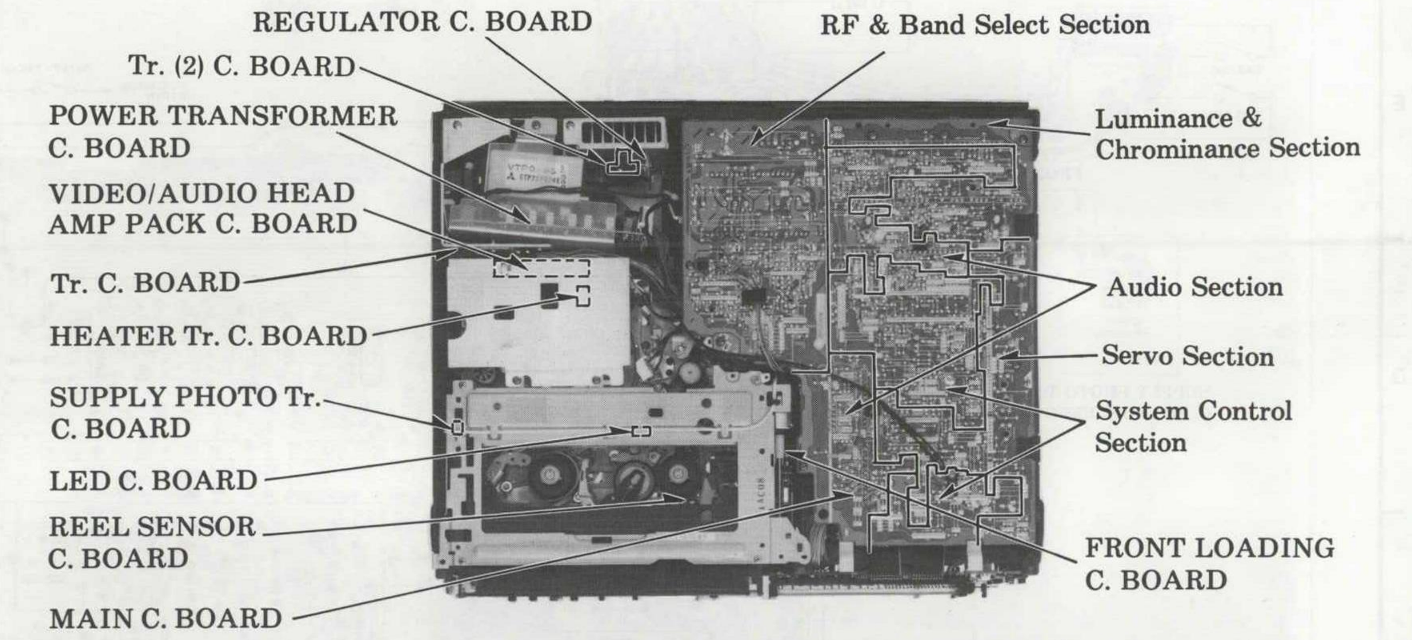
Back Page:
MAIN CIRCUIT BOARD

3-46. CIRCUIT BOARD LAYOUT

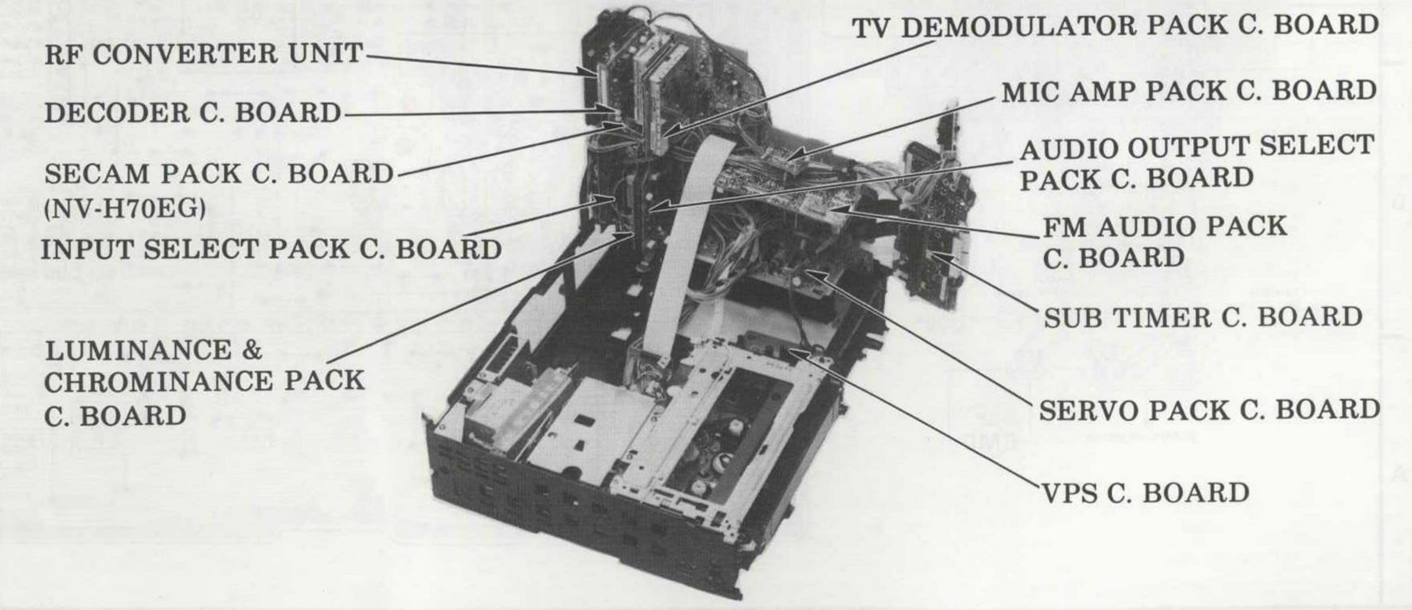
FRONT VIEW


OPERATION C. BOARD
IR RECEIVER C. BOARD
TIMER C. BOARD

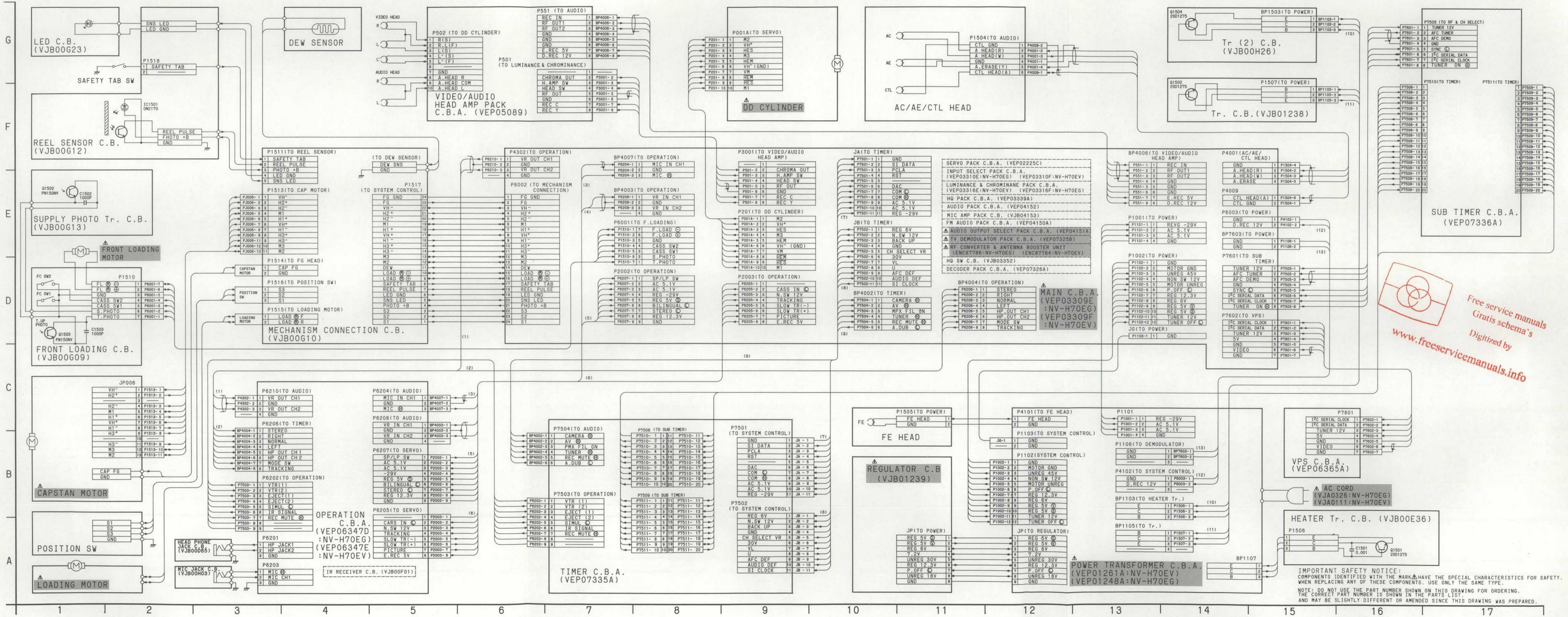
TOP VIEW (1)


REGULATOR C. BOARD
RF & Band Select Section
Tr. (2) C. BOARD
POWER TRANSFORMER C. BOARD
Luminance & Chrominance Section
VIDEO/AUDIO HEAD AMP PACK C. BOARD
Tr. C. BOARD
Audio Section
HEATER Tr. C. BOARD
Servo Section
SUPPLY PHOTO Tr. C. BOARD
System Control Section
LED C. BOARD
REEL SENSOR C. BOARD
FRONT LOADING C. BOARD
MAIN C. BOARD

TOP VIEW (2)


TV DEMODULATOR PACK C. BOARD
RF CONVERTER UNIT
MIC AMP PACK C. BOARD
DECODER C. BOARD
AUDIO OUTPUT SELECT PACK C. BOARD
SECAM PACK C. BOARD (NV-H70EG)
FM AUDIO PACK C. BOARD
INPUT SELECT PACK C. BOARD
SUB TIMER C. BOARD
LUMINANCE & CHROMINANCE PACK C. BOARD
SERVO PACK C. BOARD
VPS C. BOARD

3-47. INTERCONNECTION SCHEMATIC DIAGRAM


LED C.B. (VJB00G23)
SNS LED
LED GND
P1518
SAFETY TAB
SAFETY TAB SW
IC1501 ON2170
REEL SENSOR C.B. (VJB00G12)
REEL PULSE
PHOTO +B
GND
Q1502 PN150NV
C1502 1000P
SUPPLY PHOTO Tr. C.B. (VJB00G13)
FRONT LOADING MOTOR
FC SW2
FC SW1
P1510
T.UP PHOTO
Q1503 PN150NV
C1503 1000P
FRONT LOADING C.B. (VJB00G09)
JP006
CAPSTAN MOTOR
POSITION SW
LOADING MOTOR
DEW SENSOR
VIDEO HEAD
AUDIO HEAD
P502 (TO DD CYLINDER)
P501 (TO LUMINANCE & CHROMINANCE)
P551 (TO AUDIO)
VIDEO/AUDIO HEAD AMP PACK C.B.A. (VEP05089)
P001A (TO SERVO)
DD CYLINDER
AC
AE
CTL
P1504 (TO AUDIO)
AC/AE/CTL HEAD
Q1504 2SD1275
BP1503 (TO POWER)
Tr (2) C.B. (VJB00H26)
Q1502 2SD1275
P1507 (TO POWER)
Tr. C.B. (VJB01238)
P7505 (TO RF & CH SELECT)
P7510 (TO TIMER)
P7511 (TO TIMER)
SUB TIMER C.B.A. (VEP07336A)
P1511 (TO REEL SENSOR)
P1513 (TO CAP MOTOR)
P1514 (TO FG HEAD)
P1516 (TO POSITION SW)
P1515 (TO LOADING MOTOR)
(TO DEW SENSOR)
P1517 (TO SYSTEM CONTROL)
MECHANISM CONNECTION C.B. (VJB00G10)
P4302 (TO OPERATION)
P6002 (TO MECHANISM CONNECTION)
BP4007 (TO OPERATION)
BP4003 (TO OPERATION)
P6001 (TO F.LOADING)
P2002 (TO OPERATION)
P3001 (TO VIDEO/AUDIO HEAD AMP)
P201 (TO DD CYLINDER)
P2003 (TO OPERATION)
JA (TO TIMER)
JB (TO TIMER)
BP4002 (TO TIMER)
SERVO PACK C.B.A. (VEP02225C)
INPUT SELECT PACK C.B.A. (VEP03310E:NV-H70EG) (VEP03310F:NV-H70EV)
LUMINANCE & CHROMINANE PACK C.B.A. (VEP03316E:NV-H70EV) (VEP03316F:NV-H70EG)
HQ PACK C.B.A. (VEP03339A)
AUDIO PACK C.B.A. (VEP04152)
MIC AMP PACK C.B. (VJB04153)
FM AUDIO PACK C.B.A. (VEP04150A)
⚠ AUDIO OUTPUT SELECT PACK C.B.A. (VEP04151A)
⚠ TV DEMODULATOR PACK C.B.A. (VEP07325B)
⚠ RF CONVERTER & ANTENNA BOOSTER UNIT (ENC87786:NV-H70EG) (ENC87784:NV-H70EV)
HQ SW C.B. (VJB03352)
DECODER PACK C.B.A. (VEP07326A)
BP4004 (TO OPERATION)
⚠ MAIN C.B.A. (VEP03309E :NV-H70EG) (VEP03309F :NV-H70EV)
BP4006 (TO VIDEO/AUDIO HEAD AMP)
P1001 (TO POWER)
P1002 (TO POWER)
JG (TO POWER)
P4001 (AC/AE/CTL HEAD)
P4009
P6003 (TO POWER)
BP7603 (TO POWER)
P7601 (TO SUB TIMER)
P7602 (TO VPS)
Free service manuals Gratis schema's Digitized by www.freeservicemanuals.info
P6210 (TO AUDIO)
P6206 (TO TIMER)
P6202 (TO OPERATION)
P6204 (TO AUDIO)
P6208 (TO AUDIO)
P6207 (TO SERVO)
P6205 (TO SERVO)
HEAD PHONE JACK C.B. (VJB00085)
P6201
P6203
MIC JACK C.B. (VJB00H03)
IR RECEIVER C.B. (VJB00F01)
OPERATION C.B.A. (VEP06347D :NV-H70EG) (VEP06347E :NV-H70EV)
P7504 (TO AUDIO)
P7503 (TO OPERATION)
P7508 (TO SUB TIMER)
P7509 (TO SUB TIMER)
P7501 (TO SYSTEM CONTROL)
P7502 (TO SYSTEM CONTROL)
TIMER C.B.A. (VEP07335A)
FE
P1505 (TO POWER)
FE HEAD
REGULATOR C.B (VJB01239)
JP (TO POWER)
P4101 (TO FE HEAD)
P1103 (TO SYSTEM CONTROL)
P1102 (SYSTEM CONTROL)
JP (TO REGULATOR)
P1101
P1106 (TO DEMODULATOR)
P4102 (TO SYSTEM CONTROL)
BP1103 (TO HEATER Tr.)
BP1105 (TO Tr.)
⚠ POWER TRANSFORMER C.B.A. (VEP01261A:NV-H70EV) (VEP01248A:NV-H70EG)
BP1107
P7801
VPS C.B.A. (VEP06365A)
⚠ AC CORD (VJA0326:NV-H70EG) (VJA0111:NV-H70EV)
HEATER Tr. C.B. (VJB00E36)
P1506
C1501 0.001
Q1501 2SD1275
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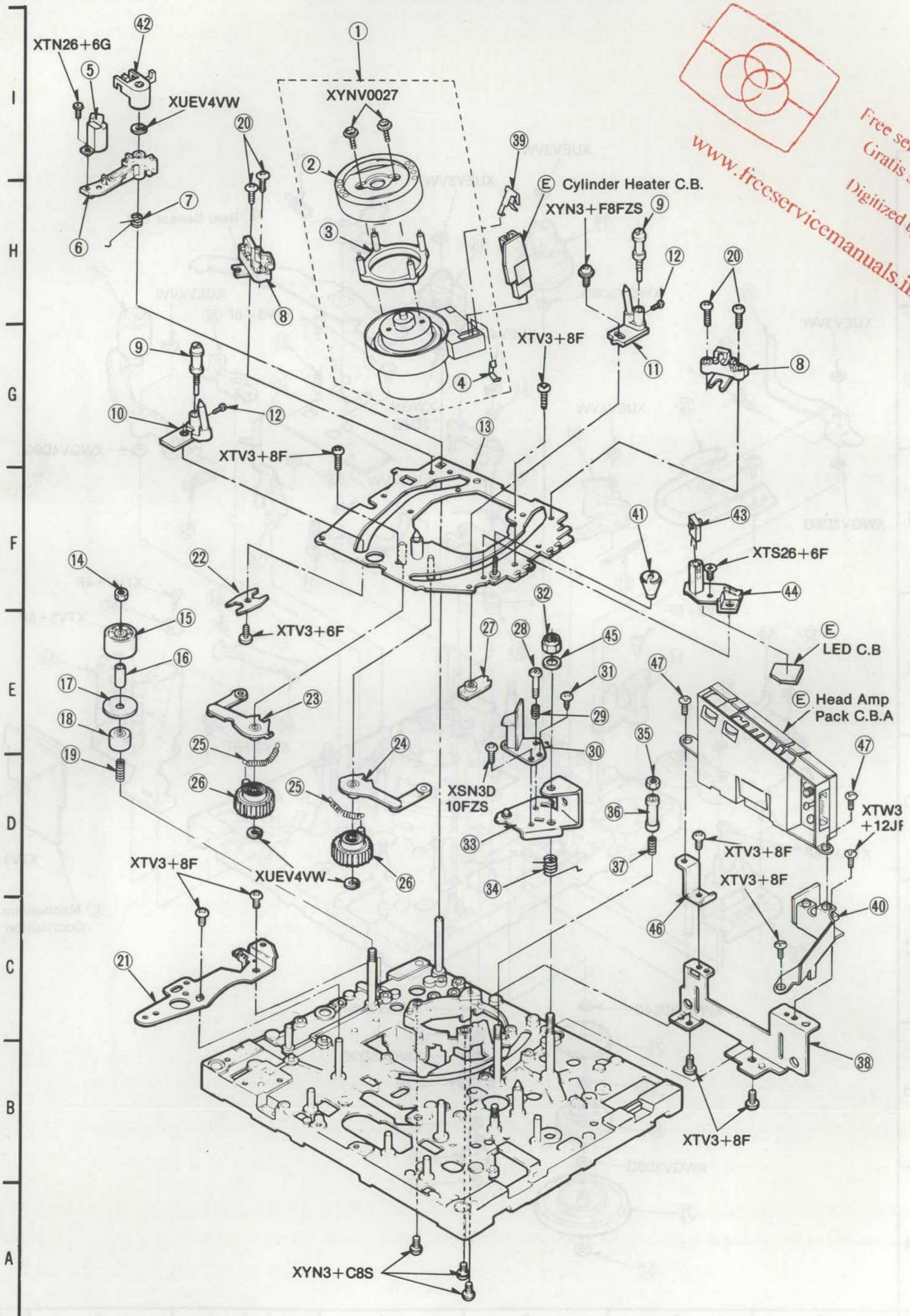
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK⚠HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SAME TYPE.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST.
AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

4/17/2018

SECTION 4
EXPLODED VIEWS & PARTS LIST

4-1. EXPLODED VIEW ❶ TRANSPORT SECTION


XTN26+6G
XUEV4VW
XYNV0027
Ⓔ Cylinder Heater C.B.
XYN3+F8FZS
XTV3+8F
XTV3+6F
XTS26+6F
Ⓔ LED C.B
Ⓔ Head Amp Pack C.B.A
XSN3D 10FZS
XTW3 +12JF
XYN3+C8S
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑ ㉒ ㉓ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙ ㉚ ㉛ ㉜ ㉝ ㉞ ㉟ ㊱ ㊲ ㊳ ㊴ ㊵ ㊶ ㊷ ㊸ ㊹ ㊺ ㊻ ㊼
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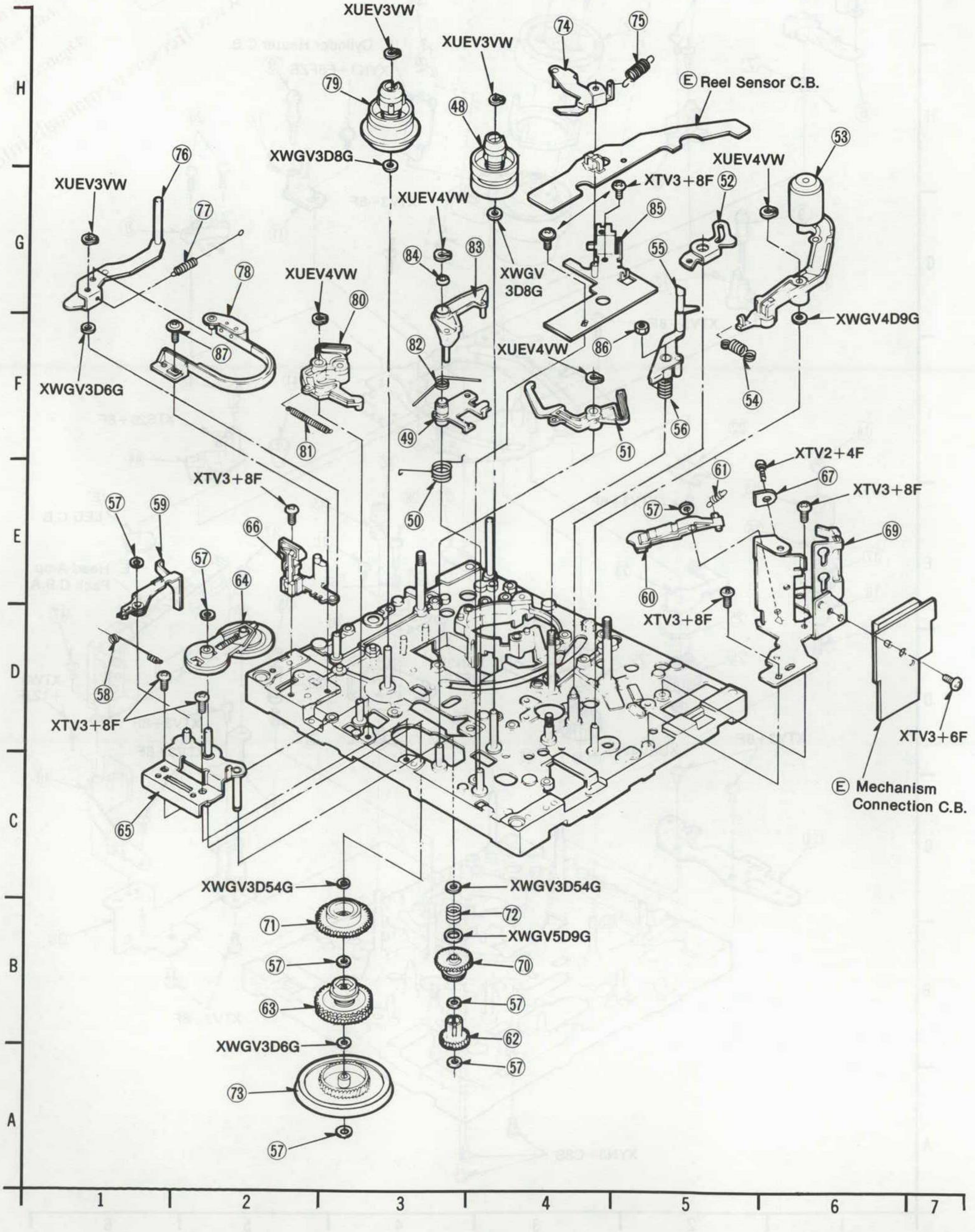
4/17/2018

❷ MOVING MECHANISM SECTION


XUEV3VW
XUEV3VW
74
75
79
48
Ⓔ Reel Sensor C.B.
53
XWGV3D8G
XUEV4VW
XTV3+8F
52
76
XUEV3VW
77
XUEV4VW
85
84
83
55
XWGV
3D8G
78
XUEV4VW
80
XWGV4D9G
87
82
XUEV4VW
86
XWGV3D6G
54
56
51
49
81
XTV2+4F
61
67
XTV3+8F
50
XTV3+8F
57
59
57
66
57
69
64
60
XTV3+8F
58
XTV3+8F
XTV3+6F
65
Ⓔ Mechanism
Connection C.B.
XWGV3D54G
XWGV3D54G
72
71
XWGV5D9G
70
57
63
57
62
XWGV3D6G
57
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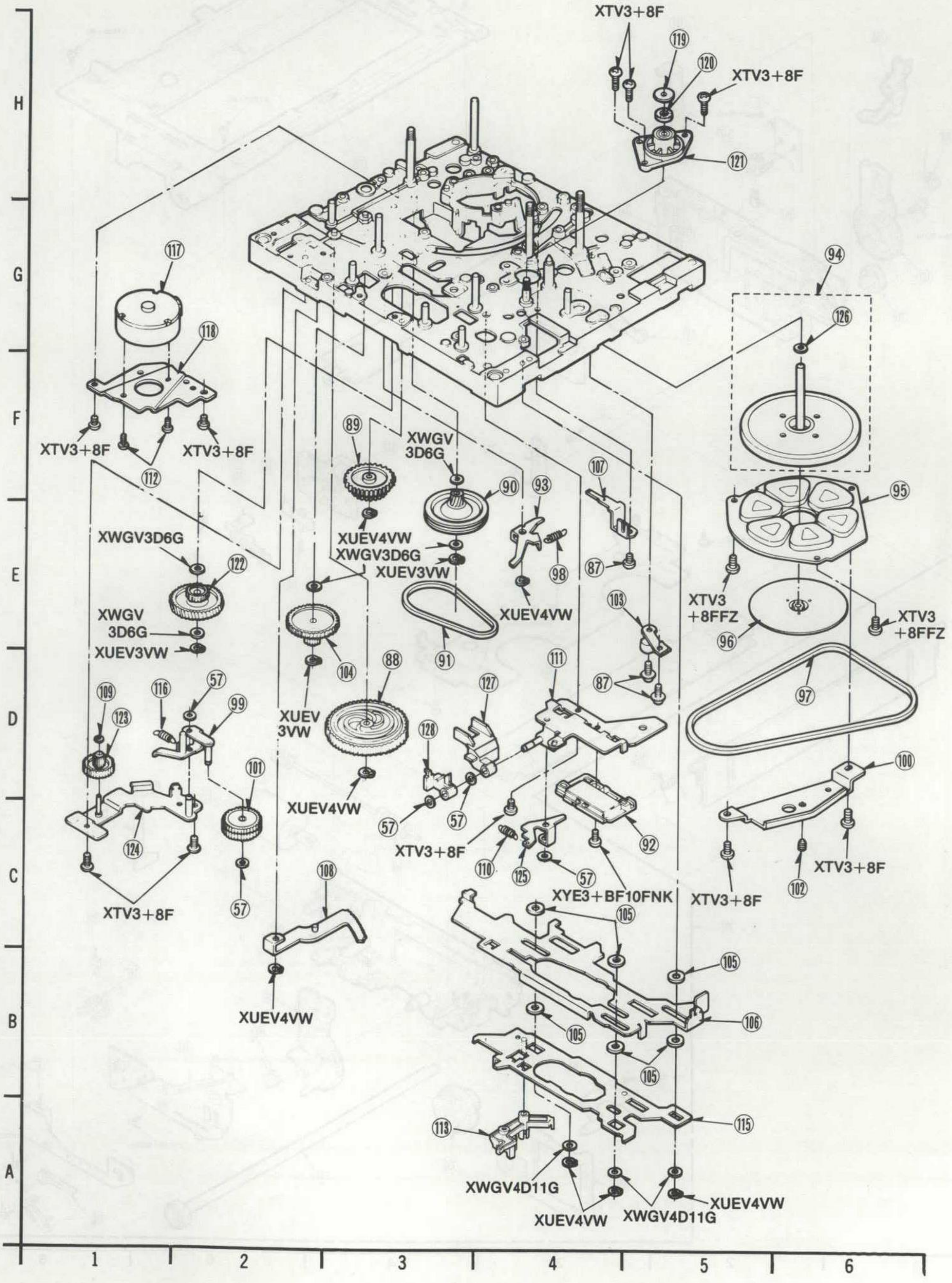
❸ CHASSIS PARTS SECTION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XTV3+8F
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XTV3+8F
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XTV3+8F
XTV3+8F
112
89
XWGV
3D6G
90
93
107
95
XUEV4VW
XWGV3D6G
XUEV3VW
XWGV3D6G
122
98
87
XTV3
+8FFZ
XTV3
+8FFZ
XUEV4VW
103
96
XWGV
3D6G
XUEV3VW
91
104
88
111
97
109
116
57
99
127
87
123
XUEV
3VW
128
100
101
XUEV4VW
57
57
92
XTV3+8F
124
110
125
57
XTV3+8F
102
XTV3+8F
XYE3+BF10FNK
XTV3+8F
108
105
57
105
XUEV4VW
106
105
105
113
115
XWGV4D11G
XUEV4VW
XUEV4VW
XWGV4D11G

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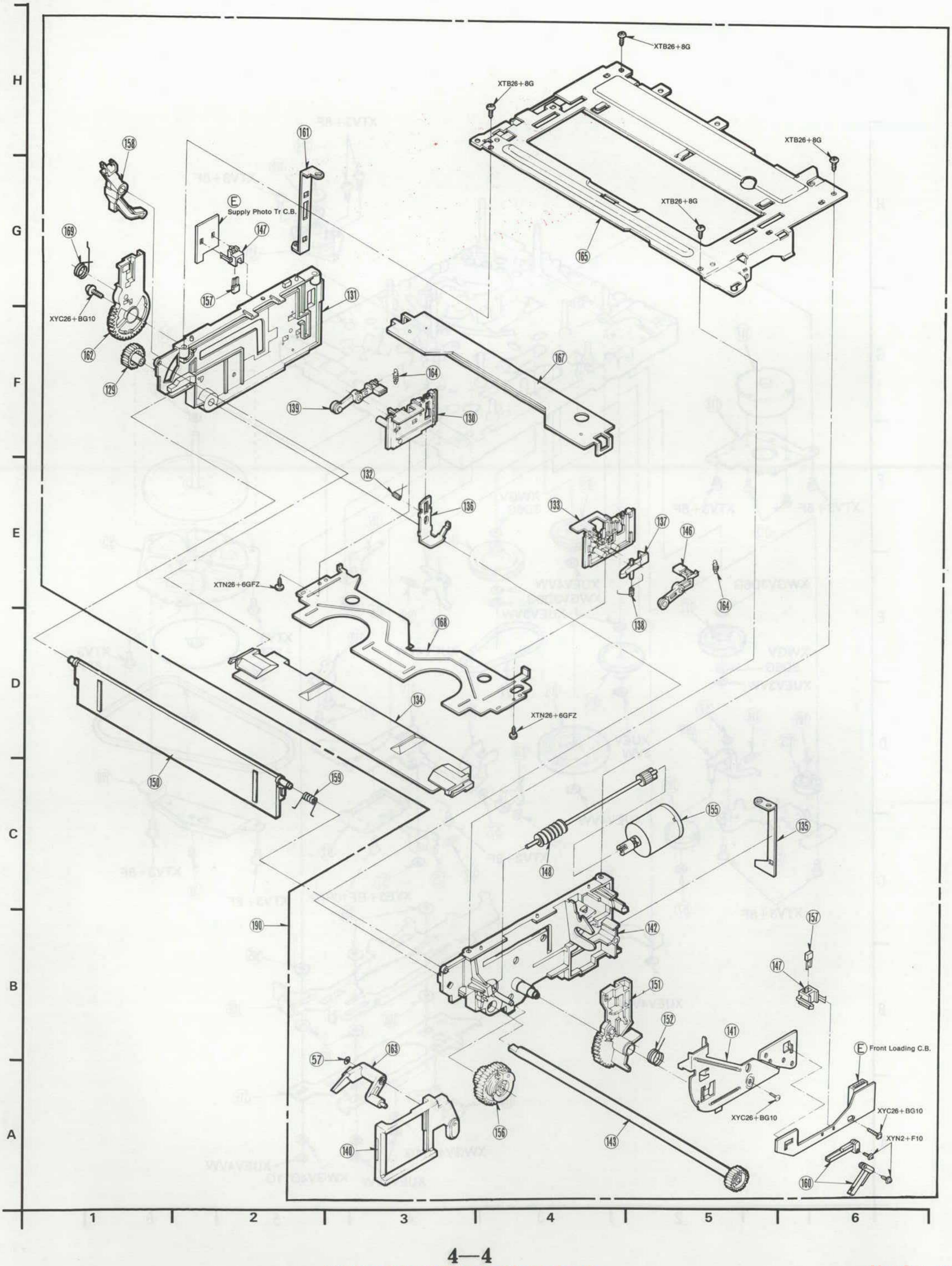
④ CASSETTE UP MECHANISM SECTION


XTB26+8G
XTB26+8G
XTB26+8G
XTB26+8G
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161
E Supply Photo Tr C.B.
147
169
XYC26+BG10
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162
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133
137
146
164
138
XTN26+6GFZ
168
134
XTN26+6GFZ
150
159
155
135
148
190
142
157
147
151
152
141
E Front Loading C.B.
57
163
156
143
XYC26+BG10
XYC26+BG10
XYN2+F10
140
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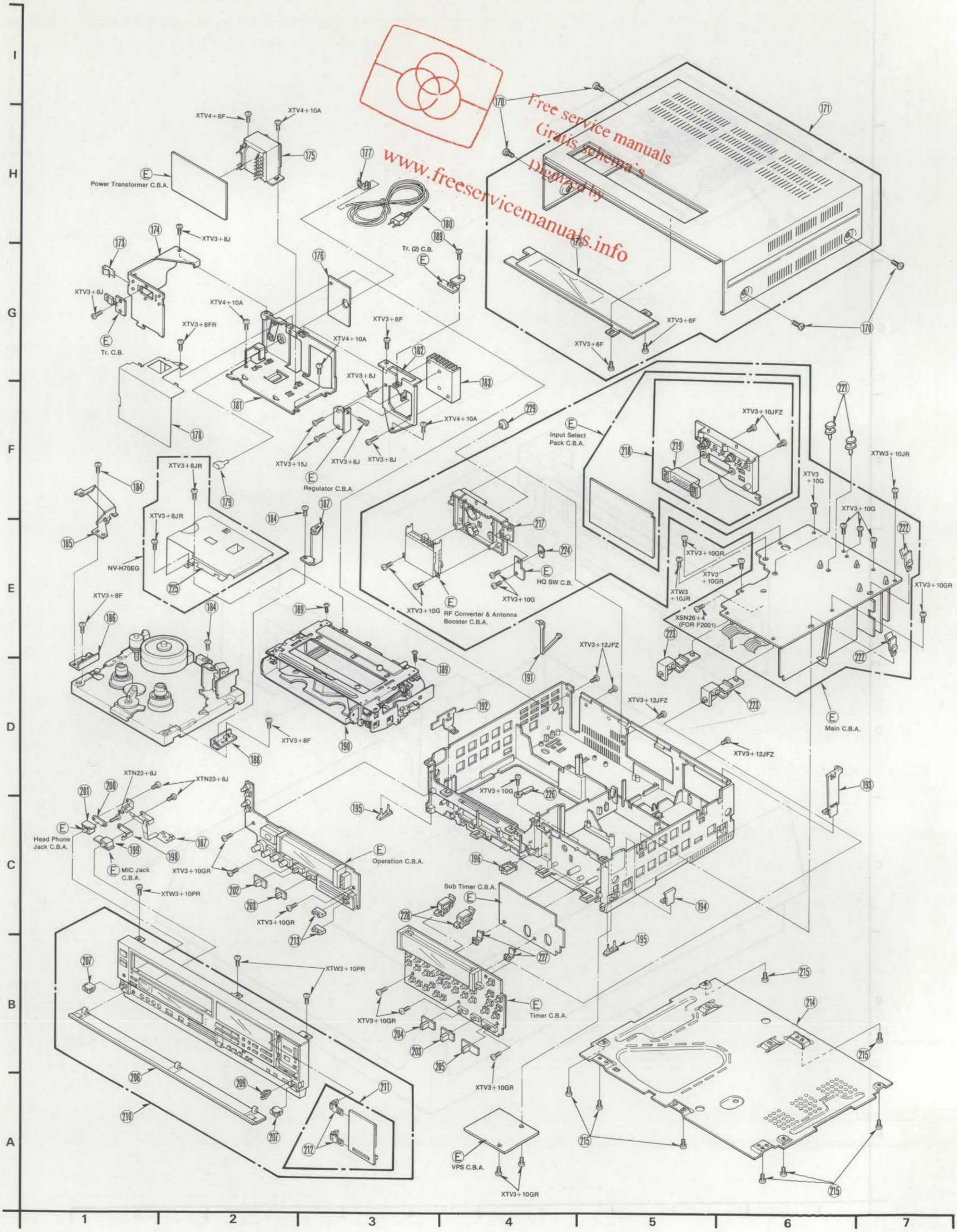
❺ CASING PARTS SECTION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XTV3+6F
XTV3+6F
XTV4+8F
XTV4+10A
175
Power Transformer C.B.A.
177
180
189
Tr. (2) C.B.
174
173
XTV3+8J
XTV3+8J
Tr. C.B.
176
XTV4+10A
XTV3+8FR
XTV3+8F
XTV4+10A
182
183
XTV3+8J
181
178
XTV4+10A
229
XTV3+15J
XTV3+8J
XTV3+8J
Regulator C.B.A.
179
XTV3+8JR
XTV3+8JR
184
185
NV-H70EG
225
184
187
217
224
HQ SW C.B.
XTV3+10G
XTV3+10G
RF Converter & Antenna Booster C.B.A.
Input Select Pack C.B.A.
218
219
XTV3+10JFZ
221
XTV3 +10G
XTW3+10JR
XTV3+10G
222
XTV3+10GR
XTV3 +10GR
XTW3 +10JR
XSN26+4 (FOR F2001)
223
XTV3+10GR
222
223
Main C.B.A.
XTV3+8F
186
184
189
189
190
191
XTV3+12JFZ
XTV3+12JFZ
XTV3+12JFZ
192
193
XTV3+8F
188
XTN23+8J
XTN23+8J
201
200
Head Phone Jack C.B.A.
187
199
198
MIC Jack C.B.A.
XTV3+10GR
Operation C.B.A.
202
203
XTV3+10GR
213
XTW3+10PR
195
XTV3+10G
226
196
194
195
Sub Timer C.B.A.
228
227
207
XTW3+10PR
XTV3+10GR
Timer C.B.A.
204
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205
XTV3+10GR
208
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VPS C.B.A.
XTV3+10GR
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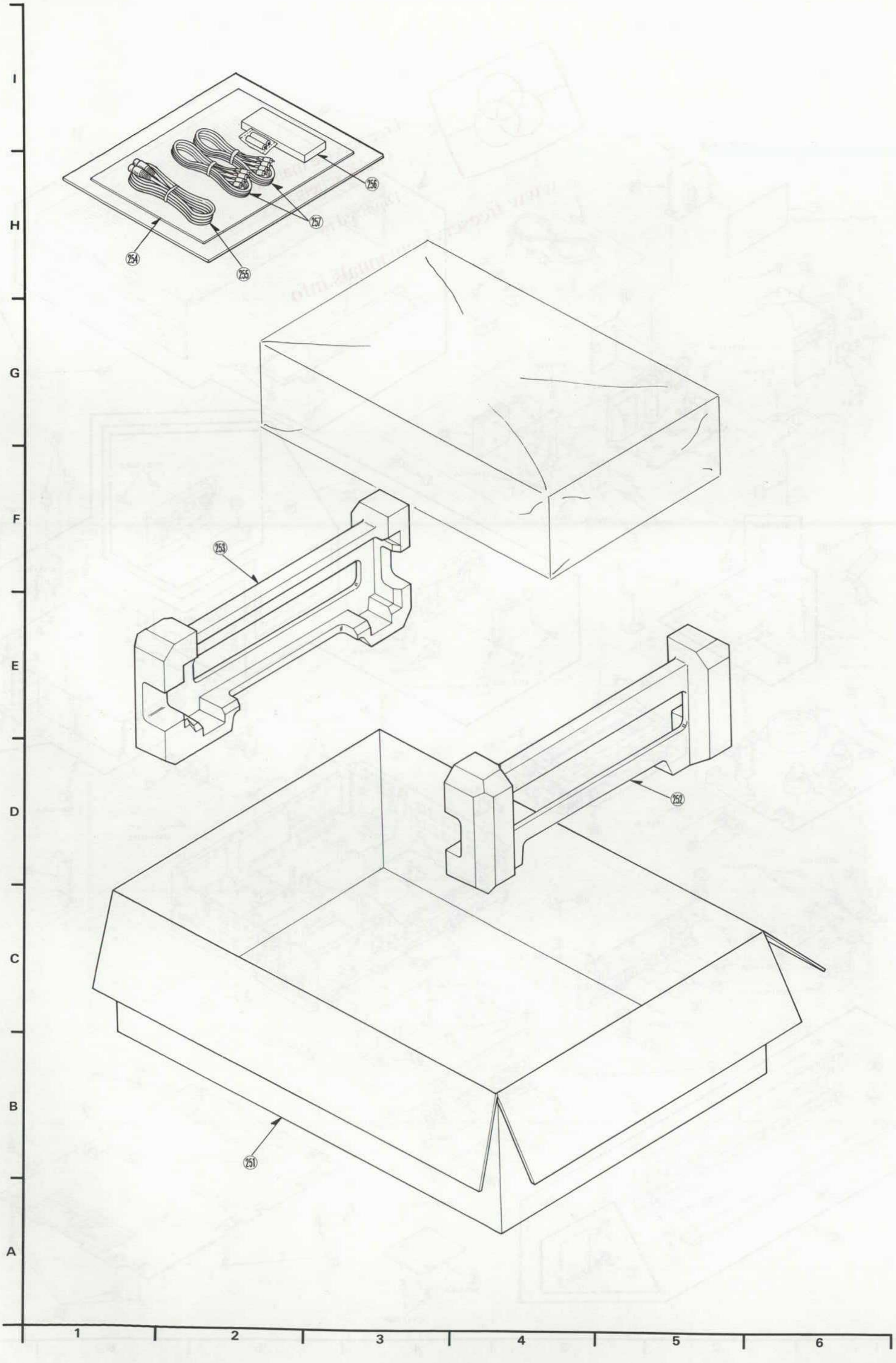
❻ PACKING PARTS SECTION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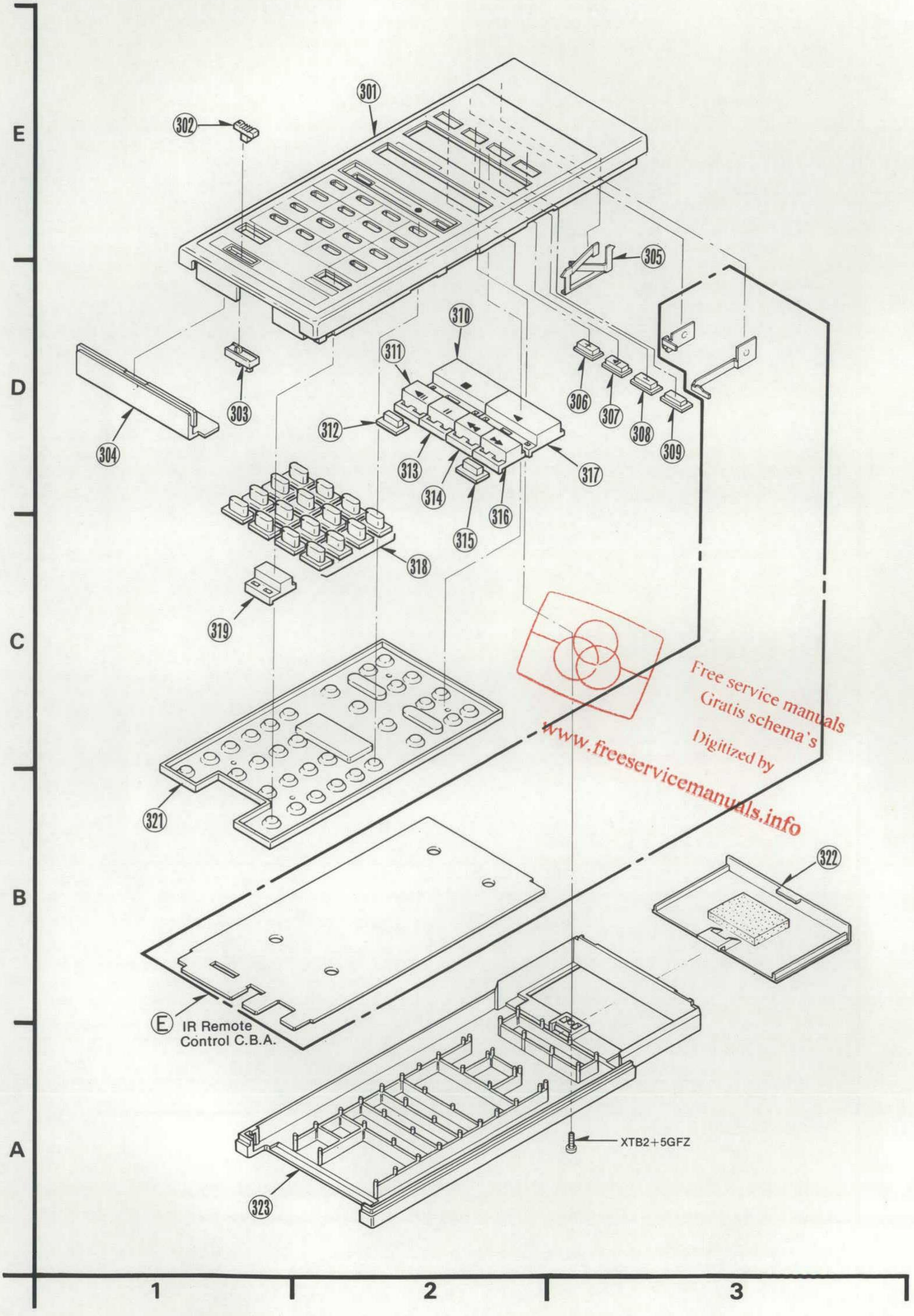
⑦ REMOTE CONTROL UNIT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323
E IR Remote Control C.B.A.
XTB2+5GFZ

Memo

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ORDER NO. VRD8605116A
(Date of issue: MAY, 1986)

4/17/2018

PARTS LIST

MODEL NO: NV-H70EG/EV

1. NV-H70EG/EV Mechanical Replacement Parts List

∗ This parts list is detachable from the manual.

Note:1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1(1)	VEG0433	DD CYLINDER UNIT	1	<!>
2(1)	VEH0322	UPPER CYLINDER UNIT	1	
3(1)	VJR0132	RT TERMINAL	1	
4(1)	VMC0049	CYLINDER HEATER PRESSURE SPRING	1	
5(1)	VBS0030	FE HEAD	1	
6(1)	VML1761	FE LEVER	1	
7(1)	VMB1459	FE LEVER SPRING	1	
8(1)	VMD0797	POST STOPPER	2	
9(1)	VXP0302A	ROLLER POST UNIT	2	
10(1)	VXA2438	INCLIND BASE (S) UNIT	1	
11(1)	VXA2439	INCLIND BASE (T) UNIT	1	
12(1)	VHD0133	SCREW	2	
13(1)	VXA2446	LOADING BASE (1) UNIT	1	
14(1)	VHD0045	NYLON NUT	1	
15(1)	VDP0908	LIMITER ROLLER	1	
16(1)	VMX0541	COLLAR	1	
17(1)	VMX0456	LOWER LIMITER	1	
18(1)	VMX0663	LIMITER STAND	1	
19(1)	VMB0754	P1 SPRING	1	
20(1)	VHD0147	SCREW	4	
21(1)	VMA6764	POSITION PLATE	1	
22(1)	VMA6759	SHAFT HOLDER STOPPER (A)	1	
23(1)	VXL0753	LOADING ARM (L) UNIT	1	
24(1)	VXL1152	LOADING ARM (R) UNIT	1	
25(1)	VMB0669	LOADING SPRING	2	
26(1)	VXP0520	LOADING GEAR UNIT	2	
27(1)	VXA1966	INCLIND ADJUSTMENT PLATE	1	
28(1)	VHD0054	ADJUSTMENT SCREW	1	
29(1)	VMB1251	ADJUSTMENT SPRING	1	
30(1)	VBR0100	A/C HEAD	1	
31(1)	VHD0089B	AZIMUTH ADJUSTMENT SCREW	1	
32(1)	VHN0038	M5 NYLON NUT	1	
33(1)	VXA2160	HEAD BASE UNIT	1	
34(1)	VMB1189	A/C HEIGHT SPRING	1	
35(1)	VHN0023	M3 NYLON NUT	1	
36(1)	VMX0647	POST SLEEVE	1	
37(1)	VMB1235	P4 POST SPRING	1	
38(1)	VMA6507	CHASSIS BRACKET	1	
39(1)	VMC0117	EARTH SPRING	1	
40(1)	VMA6819	HA ANGLE (R)	1	
41(1)	VHN0050	X ADJUSTMENT NUT	1	
42(1)	VMD0646	WIRE HOLDER	1	
43(1)	GL450	PHOTO DIODE	1	OR LN59
44(1)	VMD0644	LED HOLDER	1	
45(1)	VMX0750	SPACER	1	
46(1)	VMA6717	HA ANGLE (L)	1	OR VMA6508
47(1)	VHD0268	SCREW	2	
48(2)	VXR0136	TAKE-UP REEL TABLE UNIT	1	
49(2)	VML1610	SOFT BRAKE RELEASE LEVER	1	
50(2)	VMB1290	SOFT BRAKE SPRING (A)	1	
51(2)	VXZ0189	T SIDE MAIN BRAKE UNIT	1	
52(2)	VML1754	P5 PULL OUT LEVER	1	
53(2)	VXL1371	PRESSURE ROLLER LEVER UNIT	1	
54(2)	VMB1001	PIN PRESSURE SPRING	1	
55(2)	VXL1244	P5 ARM UNIT	1	
56(2)	VMB1307	P5 SPRING	1	
57(2,3,4)	VMX0653	CUT WASHER	13	
58(2)	VMB1198	S SOFT BRAKE SPRING	1	
59(2)	VML1757	S SOFT BRAKE ARM	1	
60(2)	VXZ0185	CAPSTAN BRAKE (A) UNIT	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
61(2)	VMB1292	CAPSTAN BRAKE ARM SPRING (1)	1	
62(2)	VDG0189	INTERMEDIATE GEAR (A)	1	
63(2)	VXP0600	CENTRE CLUTCH UNIT	1	
64(2)	VXP0521	IDLER ARM UNIT	1	
65(2)	VXA2153	FF LEVER BASE UNIT	1	
66(2)	VES0262	SAFETY SWITCH UNIT	1	
67(2)	VEK2604	DEW SENSOR UNIT	1	
69(2)	VXA2442	DEW ANGLE (1) UNIT	1	
70(2)	VDG0188	INTERMEDIATE GEAR (B)	1	
71(2)	VXP0599	CLUTCH GEAR UNIT	1	
72(2)	VMB1288	INTERMEDIATE GEAR LIFT SPRING	1	
73(2)	VDP0985	CLUTCH PULLEY	1	
74(2)	VXL1230	IDLER STOPPER UNIT	1	
75(2)	VMB1293	IDLER STOPPER SPRING	1	
76(2)	VXL1157	TENSION ARM (1) UNIT	1	
77(2)	VMB1458	TENSION SPRING	1	
78(2)	VXZ0165	TENSION BAND UNIT	1	
79(2)	VXR0118	SUPPLY REEL TABLE UNIT	1	
80(2)	VXZ0187	S SIDE MAIN BRAKE UNIT	1	
81(2)	VMB1289	MAIN BRAKE SPRING	1	
82(2)	VMB1291	SOFT BRAKE SPRING (B)	1	
83(2)	VXZ0191	T SOFT BRAKE (1) UNIT	1	
84(2)	VMX0743	STOPPER RING	1	
85(2)	VXA2464	INTERMEDIATE ANGLE (1) UNIT	1	
86(2)	VHN0023	M3 NYLON NUT	1	
87(2,3)	VHD0149	SCREW	4	
88(3)	VDG0200	CAM GEAR	1	
89(3)	VDG0278	DRIVE GEAR (2)	1	
90(3)	VDG0275	INTERMEDIATE PULLEY GEAR	1	
91(3)	VDV0158	LOADING BELT	1	
92(3)	VSS0135	MODE SELECT SWITCH	1	
93(3)	VML1618	SUB CLUTCH RELEASE ARM	1	
94(3)	VXP0695	CAPSTAN ROTOR UNIT	1	
95(3)	VEK2634	CAPSTAN STATOR UNIT	1	<!>
96(3)	VXP0597	CAPSTAN PULLEY UNIT	1	
97(3)	VDV0149	CAPSTAN BELT	1	
98(3)	VMB1296	SUB LEVER SPRING	1	
99(3)	VXL1237	SUB CLUTCH ARM (1) UNIT	1	
100(3)	VMA6504	THRUST SUPPORT PLATE	1	
101(3)	VXP0601	SUB CLUTCH UNIT	1	
102(3)	VMX0742	THRUST SCREW	1	
103(3)	VEH0275	FG HEAD UNIT	1	
104(3)	VDG0145	INTERMEDIATE GEAR	1	
105(3)	VMX0122	SLIDE WASHER	6	
106(3)	VXL1373	MAIN LEVER UNIT	1	
107(3)	VXS0059	EARTH PLATE UNIT	1	
108(3)	VXL1377	SECTOR GEAR UNIT	1	
109(3)	VMX0967	CUT WASHER	1	
110(3)	VMB1295	SELECT ARM SPRING	1	
111(3)	VXA2469	SWITCH BASE UNIT	1	
112(3)	VHD0267	SCREW	2	
113(3)	VXL1376	KICK ARM UNIT	1	
115(3)	VXL1375	SUB LEVER (1) UNIT	1	
116(3)	VMB1294	SUB CLUTCH ARM SPRING	1	
117(3)	VEM0242	LOADING MOTOR	1	<!>
118(3)	VMA6765	LOADING MOTOR BRACKET	1	
119(3)	VMX0251	OIL SEAL	1	
120(3)	VMD0104	OIL POOL	1	
121(3)	VXD0092	HOUSING UNIT	1	
122(3)	VDG0146	INTERMEDIATE GEAR	1	
123(3)	VDG0178	KICK GEAR	1	
124(3)	VXA2444	SUB CLUTCH BASE (1) UNIT	1	
125(3)	VML1763	SELECT ARM (A)	1	
126(3)	VMX0265	THRUST WASHER	1	
127(3)	VML1616	SELECT ARM (B)	1	
128(3)	VML1624	SELECT PRESSURE LEVER	1	
129(3)	VDG0274	SHAFT GEAR (L)	1	
130(3)	VXA2432	HOLDER GUIDE (L)(1) UNIT	1	
131(3)	VMD0801	SIDE PLATE (L)	1	
132(4)	VMB1456	SAFETY LEVER SPRING	1	

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
133(4)		VXA2452	HOLDER GUIDE (R)(1) UNIT	1	
134(4)		VMA6767	CASSETTE GUIDE	1	
135(4)		VSC1577	SHIELD BRACKET (R)	1	
136(4)		VMM0152	SAFETY LEVER	1	
137(4)		VML1585	RELEASE LEVER	1	
138(4)		VMB1259	RELEASE LEVER SPRING	1	
139(4)		VXL1246	PRESSURE LEVER (L) UNIT	1	
140(4)		VXA2169	SLIDER (R)(1) UNIT	1	
141(4)		VMA6760	SWITCH BRACKET	1	
142(4)		VXA2424	SIDE PLATE (R)(1) UNIT	1	
143(4)		VXP0692	MAIN SHAFT UNIT	1	
146(4)		VXL1247	PRESSURE LEVER (R) UNIT	1	
147(4)		VMD0645	PHOTO HOLDER	2	
148(4)		VXP0693	WORM SHAFT UNIT	1	
150(4)		VKF0405	BLINDER PANEL	1	(SILVER)
150(4)		VKF0487	BLINDER PANEL	1	(BLACK)
151(4)		VML1756	WIPER ARM (R)	1	
152(4)		VMB1300	WIPER SPRING (R)	1	
155(4)		VEM0243	FRONT LOADING MOTOR	1	<!>
156(4)		VXP0691	WORM WHEEL UNIT	1	
157(4)		PN150NV	PHOTO Tr.	2	
158(4)		VML1625	FRONT OPENER LEVER	1	
159(4)		VMB1258	BLINDER SPRING	1	
160(4)		VSH0028	SKELTON SWITCH	2	
161(4)		VSC1578	SHIELD BRACKET (L)	1	
162(4)		VML1620	WIPER ARM (L)	1	
163(4)		VXL1238	CASSETTE OPENER UNIT	1	
164(4)		VMB1257	PRESSURE LEVER SPRING	2	
165(4)		VMA6766	TOP PLATE	1	
167(4)		VXA2181	HOLDER ANGLE UNIT	1	
168(4)		VMA6761	CASSETTE HOLDER	1	
169(4)		VMB1301	WIPER SPRING (L)	1	
170(5)		VHD0166	SCREW	4	(SILVER)
170(5)		VHD0165	SCREW	4	(BLACK)
171(5)		VYP1681	TOP PANEL UNIT	1	NV-H70EG(SILVER)
171(5)		VYP1695	TOP PANEL UNIT	1	NV-H70EG(BLACK)
171(5)		VYP1693	TOP PANEL UNIT	1	NV-H70EV(SILVER)
171(5)		VYP1634	TOP PANEL UNIT	1	NV-H70EV(BLACK)
172(5)		VKW0476	TOP SMOKE BOARD	1	(BLACK)
172(5)		VKW0468	TOP SMOKE BOARD	1	(SILVER)
173(5)		VMC0084	TR. HOLDER	1	
174(5)		VSC1727	TR. RADIATION PLATE	1	
175(5)		VTP0195	POWER TRANSFORMER	1	<!>
176(5)		VGH0923	POWER NAME PLATE	1	
177(5)		VJF0107	AC CORD BUSHING	1	<!>
178(5)		VMZ0798	POWER BARRIER	1	<!>
179(5)		VMX0237	AC CORD COVER	1	<!>
180(5)		VJA0326	AC CORD	1	NV-H70EG<!>
180(5)		VJA0111	AC CORD	1	NV-H70EV<!>
181(5)		VMP0935	POWER TRANS. ANGLE	1	
182(5)		VMP1014	IC RADIATION FIN HOLDER	1	
183(5)		VSC1720	IC RADIATION FIN	1	
184(5)		VHD0168	SCREW	3	
185(5)		VSC1175	SHIELD PLATE(L)	1	
186(5)		VMA6465	MOUNT PLATE(L)	1	
187(5)		VSC1174	SHIELD PLATE(R)	1	
188(5)		VMA6466	MOUNT PLATE(R)	1	
189(5)		VHD0268	SCREW	3	
190(4,5)		VXA2562	CASSETTE UP UNIT	1	NV-H70EG
190(4,5)		VXA2450	CASSETTE UP UNIT	1	NV-H70EV
191(5)		VJF0139	AC CORD BAND	1	
192(5)		VMP0464	TOP HOLD ANGLE(L)	1	
193(5)		VMP0442	TOP HOLD ANGLE	1	
194(5)		VMP0934	TOP HOLD ANGLE(R)	1	
195(5)		VKA0026	RUBBER FOOT	2	
196(5)		VJF0122	WIRE SUDDLE	1	
197(5)		VMC0177	EARTH PLATE	1	
198(5)		VMA6827	MIC JACK HOLDER	1	
199(5)		VJJ0132	MIC JACK	1	
200(5)		VMA6673	H.P JACK HOLDER	1	
201(5)		VJJ0096	H.P JACK	1	
202(5)		VGU2473	AUDIO LEVEL SELECTOR	1	
			KNOB		
203(5)		VGU2707	EDIT KNOB	2	
204(5)		VGU2725	TIMER REC KNOB	1	
205(5)		VGU2992	INPUT SELECT KNOB	1	
207(5)		VGQ0963	DOOR MAGNET	2	
208(5)		VYF0874	FRONT DOOR UNIT	1	(SILVER)
208(5)		VYF0873	FRONT DOOR UNIT	1	(BLACK)
209(5)		VGQ0550	LATCH	1	
210(5)		VYP1768	FRONT PANEL UNIT	1	(SILVER) NV-H70EG
210(5)		VYP1767	FRONT PANEL UNIT	1	(BLACK) NV-H70EG
210(5)		VYP1683	FRONT PANEL UNIT	1	(SILVER) NV-H70EV
210(5)		VYP1682	FRONT PANEL UNIT	1	(BLACK) NV-H70EV
211(5)		VYF0869	PRESET DOOR UNIT	1	(SILVER)
211(5)		VYF0868	PRESET DOOR UNIT	1	(BLACK)
212(5)		VKC0278	HINGE	2	
213(5)		VGU2539	REC VR KNOB	2	
214(5)		VYP1694	BOTTOM PLATE UNIT	1	NV-H70EG
214(5)		VKU0235	BOTTOM PLATE	1	NV-H70EV
215(5)		VHD0059	SCREW	8	
217(5)		VJH0395	RF & ANTENNA BOARD	1	NV-H70EG
217(5)		VJH0394	RF & ANTENNA BOARD	1	NV-H70EV
218(5)		VEJ0496	REAR JACK UNIT	1	
219(5)		VJS1826	21 PIN JACK	1	
221(5)		VMX0985	MAIN C.B SPACER	2	
222(5)		VKC0247	HINGE(BLACK)	2	
223(5)		VKC0280	HINGE (WHITE)	2	
224(5)		VGU3130	HQ SW KNOB	1	
225(5)		VSC1514	SHIELD CASE	1	NV-H70EG
226(5)		VJR3	CLAMPER	1	
227(5)		VKC0283	HINGE	2	
228(5)		VJF0236	C.B SUPPORT	2	
229(5)		VMG0272	RF CONVERTER BUSHING	1	
251(6)		VPG2826	PACKING CASE	1	NV-H70EG(SILVER)
251(6)		VPG2824	PACKING CASE	1	NV-H70EG(BLACK)
251(6)		VPG2827	PACKING CASE	1	NV-H70EV(SILVER)
251(6)		VPG2825	PACKING CASE	1	NV-H70EV(BLACK)
252(6)		VPN1468	CUSHION(R)	1	
253(6)		VPN1469	CUSHION(L)	1	
254(6)		VQT1963	OPERATING INSTRUCTIONS	1	(ENGLISH/GERMANY/
					FRENCH)<!>
254(6)		VQT1964	OPERATING INSTRUCTIONS	1	(SWEDISH/DANISH/
					DUTCH)NV-H70EV<!>
255(6)		VJA0217	DIN RF CABLE	1	
256(6)		VEQ0437	REMOTE CONTROL UNIT	1	
257(6)		VJA0231	AUDIO CABLE	1	
301(7)		VYK1272	TOP CASE UNIT	1	
302(7)		VGU1213	POWER BUTTON	1	
303(7)		VGQ0601	POWER BUTTON HOLDER	1	
304(7)		VKW0297	SMOKE BOARD	1	
305(7)		VJR0101	ELECTRODE (COMMON)	1	
306(7)		VGU1613	SLOW(+) BUTTON	1	
307(7)		VGU1612	SLOW BUTTON	1	
308(7)		VGU1611	SLOW(-) BUTTON	1	
309(7)		VGU3082	X2 BUTTON	1	
310(7)		VGU1205	STOP BUTTON	1	
311(7)		VGU1207	F.ADVANCE BUTTON	1	
312(7)		VGU1619	REC SUB BUTTON	1	
313(7)		VGU1206	PAUSE BUTTON	1	
314(7)		VGU1209	FF BUTTON	1	
315(7)		VGU1212	REC BUTTON	1	
316(7)		VGU1208	REW BUTTON	1	
317(7)		VGU1204	PLAY BUTTON	1	
318(7)		VGU1618	CH BUTTON	16	
319(7)		VGU1210	VTR BUTTON	1	
321(7)		VSP0150	RUBBER CONTACT	1	
322(7)		VKF0340	BATTERY COVER	1	
323(7)		VYK1273	BOTTOM CASE UNIT	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
		JIG		
	VFJ8125H3F	VHS-ALIGNMENT TAPE	1	
	VFK0144	RETAINING RING REMOVER(3mm)	1	
	VFK0191	POST ADJUSTMENT PLATE	1	
	VFK0190	REEL TABLE HEIGHT JIG	1	
	VFK0189	H-POSITION ADJ-FIXTURE	1	
	VFK0157	POST ADJUSTMENT SCREWDRIVER	1	
	VFK0133	FINE ADJUSTMENT SCREWDRIVER	1	
	VFK0133	DIAL TORQUE GAUGE	1	
	VFK0134	ADAPTOR FOR VFK0133	1	
	VFK66	FAN TYPE TENSION GAUGE	1	
	VFK27	HEAD CLEANING STICK	1	
	MOR265	MORLYTONE GREASE	1	
	VFK0283	SERVICE ALIGNMENT TOOL KIT	1	

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2. NV-H70EG/EV Electrical Replacement Parts List

Note:1.* Be sure to make your orders of replacement parts according to this list.
2.IMPORTANT SAFETY NOTICE
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components,use only the same type.
3.Unless otherwise specified,
All resistors are in OHMS ,K=1,000 OHMS. All capacitors are in MICRO-FARADS(uf),P=uuF.
4.The P.C.Board units marked width'█'show below the main assembled parts.

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VEP03309E	MAIN C.B.A. (POWER SUPPLY,SERVO,AUDIO, SYSTEM CONTROL,LUMINANCE & CHROMINANCE,TUNER,TV DEMODULATOR,DECODER)	1	INCUDING THE SERVO PACK C.B.A.(VEP02225C),AUDIO PACK C.B.A. (VEP04152),FM AUDIO PACK C.B.A.(VEP04150A) OUTPUT SELECT PACK C.B.A.(VEP04151A), MIC AMP PACK C.B. (VJB04153), LUMINANCE & CHROMINANCE PACK C.B.A.(VEP03316F), HQ PACK C.B.A. (VEP03339A),INPUT SELECT PACK C.B.A. (VEP03310E),TV DEMODULATOR PACK C.B.A. (VEP07325B),DECODER PACK C.B.A(VEP07326A) NV-H70EG<!>
		VEP03309F	MAIN C.B.A. (POWER SUPPLY,SERVO,AUDEO SYSTEM CONTROL,LUMINANCE & CHROMINANCE,TUNER,TV DEMODULATOR)	1	INCLUDING THE SERVO PACK C.B.A(VEP02225C) AUDIO PACK C.B.A. (VEP04152),FM AUDIO PACK C.B.A.(VEP04150A OUT PUT SELECT PACK C.B.A.(VEP04151A), MIC AMP PACK C.B. (VJB04153),LUMUNANCE & CHROMINANCE PACK C.B.A.(VEP03316E) HQ PACK,C.B.A. (VEP03339A),INPUT SELECT PACK C.B.A. (VEP03310F).TV DEMODULATOR PACK C.B.A. (VEP07325B), DECODER PACK C.B.A. (VEP07326A) NV-H70EV<!>
		VEP02225C	SERVO PACK C.B.A.	1	
		VEP03316F	LUMINANCE & CHROMINANCE PACK C.B.A.	1	INCLUDINGTHE SECAM PACK C.B.A.(VEP03294A NV-H70EG
		VEP03316E	LUMINANCE & CHROMINANCE PACK C.B.A.	1	NV-H70EV
		VEP03294A	SECAM PACK C.B.A.	1	NV-H70EG
		VEP03310E	INPUT SELECT PACK C.B.A.	1	NV-H70EG
		VEP03310F	INPUT SELECT PACK C.B.A.	1	NV-H70EV
		VEP03339A	HQ PACK C.B.A.	1	
		VEP04152	AUDIO PACK C.B.A	1	
		VEP04151A	OUTPUT SELECT PACK C.B.A.	1	<!>
		VEP04150A	FM AUDIO PACK C.B.A.	1	
		VEP07325B	TV DEMODULATOR PACK C.B.A	1	<!>
		VEP07326A	DECODER PACK C.B.A.	1	
		VEP05089	HEAD AMP PACK C.B.A	1	
		VEP06347D	OPERATION C.B.A.	1	INCLUDING THE IR RECEIVER C.B. (VJB00F01) NV-H70EG
		VEP06347E	OPERATION C.B.A.	1	INCLUDING THE IR RECEIVER C.B. (VJB00F01) NV-H70EV
		VEP07335A	TIMER C.B.A.	1	
		VEP07336A	TIMER SUB C.B.A.	1	
		VEP06365A	VPS C.B.A.	1	
		ENC87786	RF CONVERTER & ANTENNA BOOSTER UNIT	1	NV-H70EG<!>
		ENC87784	RF CONVERTER & ANTENNA BOOSTER UNIT	1	NV-H70EV<!>
		VEP01248A	POWER TRANSFORMER C.B.A.	1	NV-H70EG
		VEP01261A	POWER TRANSFORMER C.B.A.	1	NV-H70EV
		VJB00H26	POWER TRANSFORMER SUB C.B.	1	
		VJB01239	REGULATOR POWER C.B.	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VJB01238	POWER TR.C.B.	1	
		VJB03352	HQ SW C.B.	1	
		VJB04153	MIC AMP C.B.A.	1	
		VJB00F01	IR RECEIVER C.B.	1	
		VJB00G13	SUPPLY PHOTO TR.C.B.	1	
		VJB00G23	LED C.B.	1	
		VJB00G10	MECHANISM CONNECTION C.B.	1	
		VJB00E36	CYLINDER HEATER C.B.	1	
		VJB00G09	FRONT LOADING C.B.	1	
		VJB00G12	REEL SENSOR C.B.	1	
		VJB00D65	HEAD PHONE JACK C.B.	1	
		VJB00G03	MIC JACK C.B.	1	
		VEP22044A	IR REMOTE CONTROLLER C.B.A	1	
		TNV57451F2	TUNER	1	<!>
T1101		VTP0195	POWER TRANSFORMER	1	<!>
F1101		XBA2C04TB0	FUSE 250V 400mA	1	<!>
F1102		XBA2C20TB0	FUSE 250V 2A	1	<!>
F1103		XBA2C12TB0	FUSE 250V 1.25A	1	<!>
F1104		XBA2C16TB0	FUSE 250V 1.6A	1	<!>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VWJ24BW280MM	24P FLEXIBLE CABLE	1	(P6002 - P1517)
		VWJ07BW210MM	7P FLEXIBLE CABLE	1	(P6001 - P1510)
		VWJ20A	10P FLEXIBLE CABLE	1	(P7508 - P7510)
		VWJ20A	10P FLEXIBLE CABLE	1	(P7509 - P7511)
	■	VEP03309E	MAIN C.B.A		NV-H70EG<!>
	■	VEP03309F	(POWER SUPPLY,SERVO,AUDIO, SYSTEM CONRROL,LUMINANCE & CHROMINANCE,TUNER,TV DEMODU -LATOR, DECODER)		NV-H70EV<!>
			INTEGRATED CIRCUITS		
IC2001		AN3821K	IC	1	
IC4001		M5201L	IC	1	
IC4002		AN6262N	IC	1	
IC6001		MN15342VEB	IC	1	
IC6002		AN6914	IC	1	
IC6003		BA6248	IC	1	
IC6004		MN1280R	IC	1	
IC7551		AN5033	IC	1	
IC7651		AN5421	IC	1	
			TRANSISTORS		
Q3006		2SB641	TRANSISTOR	1	
Q3008		2SB641	TRANSISTOR	1	
Q4002		2SD1330	TRANSISTOR	1	
Q4003		2SD636	TRANSISTOR	1	
Q4004		2SD636	TRANSISTOR	1	
Q4005		2SD1330	TRANSISTOR	1	
Q6002		2SD636	TRANSISTOR	1	(Q,R,S)
Q6004		2SD638	TRANSISTOR	1	(S) OR 2SD1458
Q6005		2SB561	TRANSISTOR	1	(C)
Q6006		2SB561	TRANSISTOR	1	(C)
Q6007		2SD1330	TRANSISTOR	1	
Q6008		2SB641	TRANSISTOR	1	
Q7551		2SB644	TRANSISTOR	1	
Q7576		2SB644	TRANSISTOR	1	
Q7651		2SD636	TRANSISTOR	1	OR 2SD637
Q7652		2SD637	TRANSISTOR	1	OR 2SD636
Q8001		2SD636	TRANSISTOR	1	
			CONBINATION PARTS		
			(TRANSISTOR & RESISTPR)		
QR701		UN1213	COMBINATION PARTS	1	OR DTC144EA
QR2001		UN1213	COMBINATION PARTS	1	OR DTC144EA
QR2002		UN1113	COMBINATION PARTS	1	OR DTA144EA
QR2004		UN1213	COMBINATION PARTS	1	OR DTC144EA
QR2005		UN1113	COMBINATION PARTS	1	OR DTA144EA
QR2006		UN1213	COMBINATION PARTS	1	OR DTC144EA
QR2007		UN1213	COMBINATION PARTS	1	OR DTC144EA
QR3001		UN1212	COMBINATION PARTS	1	OR DTC124EA
QR3002		UN1211	COMBINATION PARTS	1	OR DTC114EA
QR3003		UN1212	COMBINATION PARTS	1	OR DTC124EA
QR3005		UN1213	COMBINATION PARTS	1	OR DTC144EA
QR3006		UN1111	COMBINATION PARTS	1	OR DTA114EA

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR4001		UN1212	COMBINATION PARTS	1	OR DTC124EA
QR4002		UN1111	COMBINATION PARTS	1	OR DTA114EA
QR4003		UN1212	COMBINATION PARTS	1	OR DTC124EA
QR4004		UN1213	COMBINATION PARTS	1	OR DTC144EA
QR4005		UN1112	COMBINATION PARTS	1	OR DTA124EA
QR6001		UN1211	COMBINATION PARTS	1	OR DTC114EA
QR6002		UN1212	COMBINATION PARTS	1	OR DTC124EA
QR6003		UN1112	COMBINATION PARTS	1	OR DTA124EA
QR6004		UN1113	COMBINATION PARTS	1	OR DTA144EA
QR6005		UN1211	COMBINATION PARTS	1	OR DTC114EA
QR7551		UN1211	COMBINATION PARTS	1	OR DTC114EA
			DIODES	1	
D2002		MA165	DIODE	1	
D2003		MA165	DIODE	1	
D3004		MA165	DIODE	1	
D4001		MA154WK	DIODE	1	
D4002		MA154WK	DIODE	1	
D4003		MA165	DIODE	1	
D4004		MA154WK	DIODE	1	
D4005		MA165	DIODE	1	
D4006		MA165	DIODE	1	
D4007		MA165	DIODE	1	
D4008		MA165	DIODE	1	
D4009		MA165	DIODE	1	
D6001		MA165	DIODE	1	
D6005		MA165	DIODE	1	
D6007		ERA15-01	DIODE	1	
D6008		MA165	DIODE	1	
D6009		MA165	DIODE	1	
D6010		MA165	DIODE	1	
D6011		MA165	DIODE	1	
D6015		MA165	DIODE	1	
D7551		MA165	DIODE	1	
D7554		LN28WPVT	LED	1	
D7555		MA27WB	DIODE	1	
D7556		MA165	DIODE	1	
D7557		MA165	DIODE	1	
D7601		MA165	DIODE	1	
			RESISTORS		
R703		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R704		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R707		ERDS2TJ103	CARBON 1/4W 10K	1	
R709		ERDS2TJ750	CARBON 1/4W 75	1	
R2004		EROS2CKG1203	METAL OXIDE 1/4W 120K	1	
R2005		ERDS2TJ102	CARBON 1/4W 1K	1	
R2006		ERX12SJR82	METAL OXIDE 1/2W 0.82	1	
R2007		ERDS2TJ224	CARBON 1/4W 220K	1	
R2008		ERDS2TJ224	CARBON 1/4W 220K	1	
R2009		ERDS2TJ224	CARBON 1/4W 220K	1	
R2010		EROS2CKG2201	METAL OXIDE 1/4W 2.2K	1	
R2011		EROS2CKG1302	METAL OXIDE 1/4W 13K	1	
R2012		ERQ12HJ6R8P	FUSE 1/2W 6.8	1	<!>
R2013		ERDS2TJ181	CARBON 1/4W 180	1	
R2014		ERDS2TJ473	CARBON 1/4W 47K	1	
R2016		ERDS2TJ563	CARBON 1/4W 56K	1	
R2017		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R2018		ERDS2TJ103	CARBON 1/4W 10K	1	
R2019		ERDS2TJ103	CARBON 1/4W 10K	1	
R2021		ERDS2TJ561	CARBON 1/4W 560	1	
R2022		ERDS2TJ101	CARBON 1/4W 100	1	
R3019		ERDS2TJ561	CARBON 1/4W 560	1	
R3023		ERDS2TJ392	CARBON 1/4W 3.9K	1	
R3024		ERDS2TJ334	CARBON 1/4W 330K	1	
R3025		ERDS2TJ103	CARBON 1/4W 10K	1	
R3026		ERDS2TJ681	CARBON 1/4W 680	1	
R3028		ERDS2TJ103	CARBON 1/4W 10K	1	
R3030		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R3031		ERDS2TJ102	CARBON 1/4W 1K	1	
R4001		ERDS2TJ100	CARBON 1/4W 10	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4002		ERDS2TJ393	CARBON 1/4W 39K	1	
R4003		ERDS2TJ682	CARBON 1/4W 6.8K	1	
R4004		ERDS2TJ473	CARBON 1/4W 47K	1	
R4005		ERDS2TJ473	CARBON 1/4W 47K	1	
R4006		ERDS2TJ124	CARBON 1/4W 120K	1	
R4007		ERDS2TJ124	CARBON 1/4W 120K	1	
R4008		ERDS2TJ473	CARBON 1/4W 47K	1	
R4009		ERDS2TJ473	CARBON 1/4W 47K	1	
R4010		ERDS2TJ102	CARBON 1/4W 1K	1	
R4011		ERDS2TJ473	CARBON 1/4W 47K	1	
R4012		ERDS2TJ102	CARBON 1/4W 1K	1	
R4013		ERDS2TJ224	CARBON 1/4W 220K	1	
R4017		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R4018		ERDS2TJ392	CARBON 1/4W 3.9K	1	
R4019		ERDS2TJ334	CARBON 1/4W 330K	1	
R4020		ERDS2TJ334	CARBON 1/4W 330K	1	
R4021		ERDS2TJ274	CARBON 1/4W 270K	1	
R4023		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R6001		ERDS2TJ683	CARBON 1/4W 68K	1	
R6002		ERDS2TJ103	CARBON 1/4W 10K	1	
R6003		ERDS2TJ184	CARBON 1/4W 180K	1	
R6004		ERDS2TJ223	CARBON 1/4W 22K	1	
R6005		ERDS2TJ223	CARBON 1/4W 22K	1	
R6006		ERDS2TJ223	CARBON 1/4W 22K	1	
R6007		ERDS2TJ824	CARBON 1/4W 820K	1	
R6008		ERDS2TJ105	CARBON 1/4W 1000K	1	
R6009		ERDS2TJ122	CARBON 1/4W 1.2K	1	
R6010		ERDS2TJ181	CARBON 1/4W 180	1	
R6011		ERDS2TJ152	CARBON 1/4W 1.5K	1	
R6012		ERDS2TJ221	CARBON 1/4W 220	1	
R6013		ERDS2TJ223	CARBON 1/4W 22K	1	
R6014		ERDS2TJ563	CARBON 1/4W 56K	1	
R6015		ERDS2TJ221	CARBON 1/4W 220	1	
R6017		ERDS2TJ153	CARBON 1/4W 15K	1	
R6018		ERDS2TJ153	CARBON 1/4W 15K	1	
R6019		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R6020		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R6021		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R6022		ERDS2TJ103	CARBON 1/4W 10K	1	
R6023		ERDS2TJ332	CARBON 1/4W 3.3K	1	
R6024		ERDS2TJ391	CARBON 1/4W 390	1	
R6025		ERDS2TJ103	CARBON 1/4W 10K	1	
R6027		ERDS2TJ101	CARBON 1/4W 100	1	
R6030		ERDS2TJ681	CARBON 1/4W 680	1	
R6031		ERDS2TJ332	CARBON 1/4W 3.3K	1	
R6032		ERDS2TJ681	CARBON 1/4W 680	1	
R6034		ERD2FCG180	CARBON 2W 18	1	<!>
R6038		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R6039		ERDS2TJ332	CARBON 1/4W 3.3K	1	
R6041		ERDS2TJ152	CARBON 1/4W 1.5K	1	
R6043		ERDS2TJ103	CARBON 1/4W 10K	1	
R6044		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R6045		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R6046		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R6049		ERDS2TJ103	CARBON 1/4W 10K	1	
R6052		ERDS1VJ470	CARBON 1/4W 47	1	
R6053		ERDS2TJ561	CARBON 1/4W 560	1	
R6054		ERDS2TJ101	CARBON 1/4W 100	1	
R6055		ERDS2TJ561	CARBON 1/4W 560	1	
R6056		ERDS2TJ101	CARBON 1/4W 100	1	
R6057		ERDS2TJ561	CARBON 1/4W 560	1	
R6059		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R6060		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R6061		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R6063		ERDS2TJ332	CARBON 1/4W 3.3K	1	
R6064		ERDS2TJ103	CARBON 1/4W 10K	1	
R6065		ERDS2TJ103	CARBON 1/4W 10K	1	
R6066		ERDS2TJ181	CARBON 1/4W 180	1	
R6067		ERDS2TJ223	CARBON 1/4W 22K	1	
R6068		ERDS2TJ101	CARBON 1/4W 100	1	
R7551		ERDS2TJ104	CARBON 1/4W 100K	1	
R7552		ERDS2TJ332	CARBON 1/4W 3.3K	1	
R7553		ERDS2TJ332	CARBON 1/4W 3.3K	1	
R7554		ERDS2TJ102	CARBON 1/4W 1K	1	
R7555		ERDS2TJ102	CARBON 1/4W 1K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R7556	ERDS2TJ473	CARBON 1/4W 47K	1	
R7557	ERDS2TJ124	CARBON 1/4W 120K	1	
R7558	ERDS2TJ104	CARBON 1/4W 100K	1	
R7559	ERDS2TJ473	CARBON 1/4W 47K	1	
R7560	ERDS2TJ473	CARBON 1/4W 47K	1	
R7561	ERDS2TJ223	CARBON 1/4W 22K	1	
R7562	ERDS2TJ332	CARBON 1/4W 3.3K	1	
R7563	ERDS2TJ332	CARBON 1/4W 3.3K	1	
R7564	ERDS2TJ332	CARBON 1/4W 3.3K	1	
R7565	ERDS2TJ222	CARBON 1/4W 2.2K	1	
R7566	ERDS2TJ334	CARBON 1/4W 330K	1	
R7567	ERDS2TJ104	CARBON 1/4W 100K	1	
R7568	ERDS2TJ103	CARBON 1/4W 10K	1	
R7572	ERDS2TJ473	CARBON 1/4W 47K	1	
R7573	ERDS2TJ820	CARBON 1/4W 82	1	
R7574	ERDS2TJ333	CARBON 1/4W 33K	1	
R7575	ERDS2TJ273	CARBON 1/4W 27K	1	
R7576	ERDS2TJ390	CARBON 1/4W 39	1	
R7651	ERDS2TJ332	CARBON 1/4W 3.3K	1	
R7652	ERDS2TJ101	CARBON 1/4W 100	1	
R7653	ERDS2TJ471	CARBON 1/4W 470	1	
R7654	ERDS2TJ562	CARBON 1/4W 5.6K	1	
R7655	ERDS2TJ472	CARBON 1/4W 4.7K	1	
R7656	ERDS2TJ151	CARBON 1/4W 150	1	
R7657	ERDS2TJ104	CARBON 1/4W 100K	1	
R7658	ERDS2TJ393	CARBON 1/4W 39K	1	
R7659	ERDS2TJ822	CARBON 1/4W 8.2K	1	
R7661	ERDS2TJ562	CARBON 1/4W 5.6K	1	
R7662	ERDS2TJ393	CARBON 1/4W 39K	1	
R7663	ERDS2TJ222	CARBON 1/4W 2.2K	1	
R7664	ERDS2TJ332	CARBON 1/4W 3.3K	1	
R7665	ERDS2TJ102	CARBON 1/4W 1K	1	
R7666	ERDS2TJ823	CARBON 1/4W 82K	1	
R7667	ERDS2TJ103	CARBON 1/4W 10K	1	
R8001	ERDS2TJ102	CARBON 1/4W 1K	1	
R8002	ERDS2TJ221	CARBON 1/4W 220	1	
R8003	ERDS2TJ822	CARBON 1/4W 8.2K	1	
R8004	ERDS2TJ821	CARBON 1/4W 820	1	
		VARIABLE RESISTORS		
VR2001	EVN61AA00B54	50K	1	
VR2002	EVN61AA00B15	100K	1	
VR2011	EVN61AA00B15	100K	1	
VR3051	EVN61AA00B22	200	1	
VR4001	EVN38CA00B13	1K	1	
VR4002	EVN38CA00B25	200K	1	
VR4503	EVN38CA00B23	2K	1	
VR4505	EVN38CA00B54	50K	1	
VR4510	EVN38CA00B15	100K	1	
VR7502	EVN61AA00B14	10K	1	
VR7660	EVMK3GA00B23	2K	1	
		CAPACITORS		
C701	ECEA1CK220	ELECTROLYTIC 16V 22U	1	
C702	ECEA1EK4R7	ELECTROLYTIC 25V 4.7U	1	
C703	ECEA1HKN010	ELECTROLYTIC 50V 1U	1	
C705	ECEA1CKS220	ELECTROLYTIC 16V 22U	1	
C707	ECEA1HKS010	ELECTROLYTIC 50V 1U	1	
C708	ECEA1CKS220	ELECTROLYTIC 16V 22U	1	
C709	ECKF1H103ZF	CERAMEC 50V 0.01U	1	
C2001	ECEA1VU4R7	ELECTROLYTIC 35V 4.7U	1	
C2002	ECEA1VU4R7	ELECTROLYTIC 35V 4.7U	1	
C2003	ECEA1VU4R7	ELECTROLYTIC 35V 4.7U	1	
C2004	ECQB1H822KH	MYLAR 50V 8200P	1	
C2005	ECQB1H822KH	MYLAR 50V 8200P	1	
C2006	ECQB1H822KH	MYLAR 50V 8200P	1	
C2007	ECQV1H104JZ	MYLAR 50V 0.1U	1	
C2008	ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C2009	ECEA1HK0R1	ELECTROLYTIC 50V 0.1U	1	
C2010	ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C2011	ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C2012	ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C3011	ECEA1CU470	ELECTROLYTIC 16V 47U	1	
C3012	ECEA0JU471	ELECTROLYTIC 6.3V 470U	1	
C3016	VCYD1C104MR1	SEMICONDUCTOR 16V 0.1U	1	
C3017	ECCF1H100DC	CERAMIC 50V 10P	1	
C3018	ECQV1H104JZ	MYLAR 50V 0.1U	1	
C3019	ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C3020	ECKF1H152KB	CERAMIC 50V 1500P	1	
C4001	ECEA16Z10	ELECTROLYTIC 16V 10U	1	
C4002	ECEA0JU470	ELECTROLYTIC 6.3V 47U	1	
C4003	ECQB1H222KH	MYLAR 50V 2200P	1	
C4004	ECEA1HK2R2	ELECTROLYTIC 50V 2.2U	1	
C4005	ECEA1EK3R3	ELECTROLYTIC 25V 3.3U	1	
C4006	ECEA1HK2R2	ELECTROLYTIC 50V 2.2U	1	
C4007	ECEA1CK330	ELECTROLYTIC 16V 33U	1	
C4008	ECEA1CU101	ELECTROLYTIC 16V 100U	1	
C4009	ECEA1CU101	ELECTROLYTIC 16V 100U	1	
C4010	ECEA1EKN3R3	ELECTROLYTIC 25V 3.3U	1	
C4011	ECQB1H153KH	MYLAR 50V 0.015	1	
C4012	ECQV1H104JZ	MYLAR 50V 0.1U	1	
C4013	ECEA1HK2R2	ELECTROLYTIC 50V 2.2U	1	
C4014	ECCF1H180KC	CERAMIC 50V 18P	1	
C4015	ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C4016	ECEA1AU101	ERECTROLYTIC 10V 100U	1	
C4017	ECQV1H104JZ	MYLAR 50V 0.1U	1	
C6002	ECEA0JK101	ELECTROLYTIC 6.3V 100U	1	
C6003	ECKF1H681KB	CERAMIC 50V 680P	1	
C6004	ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C6005	ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C6006	VCYD1C104MR1	SEMICONDUCTOR 16V 0.1U	1	
C6007	ECCF1H330JC	CERAMIC 50V 33P	1	
C6008	ECCF1H330JC	CERAMIC 50V 33P	1	
C6009	ECEA1HKN010	ELECTROLYTIC 50V 1U	1	
C6010	ECEA1HKN010	ELECTROLYTIC 50V 1U	1	
C6011	ECEA1HK2R2	ELECTROLYTIC 50V 2.2U	1	
C6013	ECKF1H221KB	CERAMIC 50V 220P	1	
C6014	ECEA1HKN2R2	ELECTROLYTIC 50V 2.2U	1	
C6015	ECEA50Z2R2	ELECTROLYTIC 50V 2.2U	1	
C6016	ECEA50Z3R3	ELECTROLYTIC 50V 3.3U	1	
C6017	ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C6018	EECF5R5U105	GOLD 5.5V 1	1	
C6019	ECEA1AU331	ELECTROLYTIC 10V 330U	1	
C6020	ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C6021	ECQV1H104JZ	MYLAR 50V 0.1U	1	
C6022	ECEA1CK101	ELECTROLYTIC 16V 100U	1	
C7551	ECQV1H104JZ	MYLAR 50V 0.1U	1	
C7552	ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C7553	ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C7554	ECEA1HK220	ELECTROLYTIC 50V 22U	1	
C7555	ECQB1H273KH	MYLAR 50V 0.027U	1	
C7556	ECQV1H823JZ	MYLAR 50V 0.082U	1	
C7557	ECQV1H683JZ	MYLAR 50V 0.068U	1	
C7558	ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C7559	ECQV1H104JZ	MYLAR 50V 0.1U	1	
C7560	ECQB1H103KH	MYLAR 50V 0.01U	1	
C7561	ECQV1H104JZ	MYLAR 50V 0.01U	1	NV-H70EV
C7561	ECQV1H104JH	MYLAR 50V 0.01U	1	NV-H70EG
C7562	ECEA2AU100	ELECTROLYTIC 100V 10U	1	
C7563	ECEA1HKN010	ELECTROLYTIC 50V 1U	1	
C7564	ECKF1H102KB	CERAMIC 50V 1000P	1	
C7565	ECKF1H102KB	CERAMIC 50V 1000P	1	
C7566	ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C7567	ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C7651	ECEA1CK330	ELECTROLYTIC 16V 33U	1	
C7652	ECEA1CKN330	ELECTROLYTIC 16V 33U	1	
C7653	ECQB1H392JH	MYLAR 50V 3900P	1	
C7654	ECQB1H103JH	MYLAR 50V 0.01U	1	
C7655	ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C7656	ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C7657	ECKF1H103ZF	CERAMIC 50V 0.01	1	
C7658	ECQP1562JZ	MYLAR	1	
C7659	ECQB1H272JH	MYLAR 50V 2700P	1	
C7660	ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C8001	ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C8002	ECKF1H103ZF	CERAMIC 50V 0.01U	1	

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C8003		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
			COILS		
L3006		VLQEL05F101K	100UH	1	
L701		VLQEL05F680K	68UH	1	
L702		VLQEL05F221K	220UH	1	
L703		VLQEL05F221K	220UH	1	
L7551		VLQEL05F102K	1000UH	1	
			CONNECTORS		
P1001		VJP1231T	4P	1	
P1002		VJP1239T	12P	1	
P2002		VJP1236T	9P	1	
P2003		VJP1235T	8P	1	
P3001		VJP1235T	8P	1	
P3501		VJP1854		1	
P3601		VJP1854		1	
P4001		VJP1231T	4P	1	
P4009		VJP1229T	2P	1	
P4401		VJP1862		1	
P4402		VJP1860		1	
P6001		VJS1465		1	
P6002		VJS1444		1	
P6003		VJP1229T	2P	1	
P7601		VJP1235T	8P	1	
P7602		VJP1234T	7P	1	
			CRYSTAL OSCILLATOR		
X6001		VSX0082		1	
			FUSE		
F2001		VSF0043	THEMAL FUSE	1	<!>
			MISCELLANEOUS	1	
		VMC0075	HEATSINK SPRING	1	FOR IC2001
		VMC0105	SPORT ANGLE	1	FOR IC2001
		VSC1689	HEATSINK	1	FOR IC2001
		VMP0933	SEAVO C.B.A. SUPORT ANGLE	1	
		VJF0045	CLAMPER	1	
		VMP0848	EARTH ANGLE	1	
		VJF0215	BINDER	3	
	■	VEP02225C	SERVO PACK C.B.A.		
			INTEGRATED CIRCUITS		
IC201		AN3795N	IC	1	
IC203		AN6387	IC	1	
IC205		BA8420	IC	1	
IC206		AN3792	IC	1	
IC207		MN6178VAL	IC	1	
			TRANSISTORS		
Q201		2SB641	TRANSISTOR	1	
Q203		2SD636	TRANSISTOR	1	
Q204		2SD636	TRANSISTOR	1	
Q205		2SD636	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			COMBINATION CIRCUITS		
			(TRANSISTOR & RESISTOR)		
QR202		UN1113	COMBINATION PART	1	OR DTA144EA
QR205		UN1112	COMBINATION PART	1	OR DTA124EA
QR208		UN1113	COMBINATION PART	1	OR DTA144EA
			DIODES		
D204		MA165	DIODE	1	
D205		MA165	DIODE	1	
D208		MA165	DIODE	1	
D209		MA165	DIODE	1	
D210		MA165	DIODE	1	
D211		MA165	DIODE	1	
D212		MA165	DIODE	1	
D213		MA165	DIODE	1	
D214		MA165	DIODE	1	
			RESISTORS	1	
R201		ERDS2TJ103	CARBON 1/4W 10K	1	
R202		ERDS2TJ393	CARBON 1/4W 39K	1	
R203		ERDS2TJ102	CARBON 1/4W 1K	1	
R209		ERDS2TJ563	CARBON 1/4W 56K	1	
R210		ERDS2TJ272	CARBON 1/4W 2.7K	1	
R211		ERDS2TJ272	CARBON 1/4W 2.7K	1	
R217		EROS2CKG5101	METAL OXIDE 1/4W 5.1K	1	
R218		EROS2CKG8201	METAL OXIDE 1/4W 8.2K	1	
R219		ERDS2TJ154	CARBON 1/4W 150K	1	
R220		ERDS2TJ154	CARBON 1/4W 150K	1	
R221		ERDS2TJ333	CARBON 1/4W 33K	1	
R222		ERDS2TJ124	CARBON 1/4W 120K	1	
R223		ERDS2TJ332	CARBON 1/4W 3.3K	1	
R224		ERDS2TJ104	CARBON 1/4W 100K	1	
R225		ERDS2TJ124	CARBON 1/4W 120K	1	
R226		EROS2CKG2701	METAL OXIDE 1/4W 2.7K	1	
R227		ERX12SJR68	METAL OXIDE 1/2W 0.68	1	
R228		EROS2CKG2200	METAL OXIDE 1/4W 220	1	
R229		ERDS2TJ150	CARBON 1/4W 15	1	
R230		ERDS2TJ150	CARBON 1/4W 15	1	
R231		ERDS2TJ150	CARBON 1/4W 15	1	
R232		ERDS2TJ102	CARBON 1/4W 1K	1	
R233		ERDS2TJ105	CARBON 1/4W 1000K	1	
R234		ERDS2TJ223	CARBON 1/4W 22K	1	
R235		ERDS2TJ224	CARBON 1/4W 220K	1	
R237		ERDS2TJ105	CARBON 1/4W 1000K	1	
R239		ERDS2TJ102	CARBON 1/4W 1K	1	
R240		EROS2CKG3602	METAL OXIDE 1/4W 36K	1	
R241		ERDS2TJ124	CARBON 1/4W 120K	1	
R244		ERDS2TJ124	CARBON 1/4W 120K	1	
R245		ERDS2TJ184	CARBON 1/4W 180K	1	
R246		ERDS2TJ104	CARBON 1/4W 100K	1	
R248		ERDS2TJ473	CARBON 1/4W 47K	1	
R249		ERDS2TJ473	CARBON 1/4W 47K	1	
R250		ERDS2TJ473	CARBON 1/4W 47K	1	
R251		ERDS2TJ473	CARBON 1/4W 47K	1	
R252		ERDS2TJ153	CARBON 1/4W 15K	1	
R253		ERDS2TJ223	CARBON 1/4W 22K	1	
R254		ERDS2TJ331	CARBON 1/4W 330	1	
R255		ERDS2TJ154	CARBON 1/4W 150K	1	
R256		ERDS2TJ154	CARBON 1/4W 150K	1	
R257		ERDS2TJ274	CARBON 1/4W 270K	1	
R258		ERDS2TJ563	CARBON 1/4W 56K	1	
R259		ERDS2TJ682	CARBON 1/4W 6.8K	1	
R260		ERDS2TJ333	CARBON 1/4W 33K	1	
R261		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R263		ERDS2TJ103	CARBON 1/4W 10K	1	
R264		ERDS2TJ103	CARBON 1/4W 10K	1	
R265		ERDS2TJ101	CARBON 1/4W 100	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			VARIABLE RESISTOR		
VR2003		EVL51MA00B25	200K	1	
			CAPACITORS		
C201		ECCF1H271JC	CERAMIC 50V 270P	1	
C202		VCYD1E102MR	SEMICONDUCTOR 25V 1000P	1	
C203		VCYD1E562MR	SEMICONDUCTOR 25V 5600P	1	
C204		ECEA1HK0R1	ELECTROLYTIC 50V 0.1U	1	
C205		ECEA0JK330	ELECTROLYTIC 6.3V 33U	1	
C207		ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C208		ECQV1H334JZ	MYLAR 50V 0.33U	1	
C209		ECQV1H683JZ	MYLAR 50V 0.068U	1	
C210		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C211		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C212		ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C213		ECEA10Z47	ELECTROLYTIC 10V 47U	1	
C214		ECQB1H182KH	MYLAR 50V 1800P	1	
C215		ECQB1H562JH	MYLAR 50V 5600P	1	
C216		ECQB1H332JH	MYLAR 50V 3300P	1	
C217		ECQV1H124JZ	MYLAR 50V 0.12U	1	
C218		ECQV1H274JZ	MYLAR 50V 0.27U	1	
C219		ECQV1H394JZ	MYLAR 50V 0.39U	1	
C220		ECQV1H184JZ	MYLAR 50V 0.18U	1	
C221		ECKF1H122KB	CERAMIC 50V 1200P	1	
C222		ECQB1H332KH	MYLAR 50V 3300P	1	
C223		ECQB1H272JH	MYLAR 50V 2700P	1	
C225		ECEA1VKN2R2	ELECTROLYTIC 35V 2.2U	1	
C226		ECEA1VKN2R2	ELECTROLYTIC 35V 2.2U	1	
C227		ECEA50ZR22	ELECTROLYTIC 50V 0.22U	1	
C228		VCYD1E123MR	SEMICONDUCTOR 25V 0.012U	1	
C229		ECEA1EK3R3	ELECTROLYTIC 25V 3.3U	1	
C230		ECEA1EK470	ELECTROLYTIC 25V 47U	1	
C231		ECEA1CK470	ELECTROLYTIC 16V 47U	1	
C232		ECQB1H472KH	MYLAR 50V 4700P	1	
C233		ECQB1H682JH	MYLAR 50V 6800P	1	
C234		ECKF1H222KB	CERAMIC 50V 2200P	1	
C235		ECEA1VKN2R2	ELECTROLYTIC 35V 2.2U	1	
C237		ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C238		ECQB1H223JH	MYLAR 50V 0.022U	1	
C239		ECQB1H562JH	MYLAR 50V 5600P	1	
C240		ECEA1HK0R1	ELECTROLYTIC 50V 0.1U	1	
C241		ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C242		ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C243		ECEA0JK101	ELECTROLYTIC 6.3V 100U	1	
C244		ECEA1EKN2R2	ELECTROLYTIC 25V 2.2U	1	
C247		VCYD1E103JR	SEMICONDUCTOR 25V 0.01U	1	
C248		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C249		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C250		ECKF1H222KB	CERAMIC 50V 2200P	1	
C251		ECQB1H223JH	MYLAR 50V 0.022U	1	
			COMBINATION CIRCUITS		
			(CAPACITOR & RESISTOR)		
CR201		EXED223M222C	C & R 0.022U 2.2K	1	
CR202		EXED472M104C	C & R 4700P 100K	1	
			CONNECTOR		
P201		VJP1237T	10P	1	
			PACK PINS		
PR201		VJR0189		1	
PR202		VJR0189		1	
PR203		VJR0189		1	
PR204		VJR0190		1	
PR205		VJR0190		1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP03316E	LUMINANCE & CHROMINANCE		NV-H70EV
	■	VEP03316F	PACK C.B.A.		NV-H70EG
			INTEGRATED CIRCUITS		
IC301		VEFY015	IC	1	F.I.C
IC302		BA7004	IC	1	
IC801		VEFC013	IC	1	F.I.C
			TRANSISTORS		
Q301		2SC2206	TRANSISTOR	1	
Q302		2SC2206	TRANSISTOR	1	
Q303		2SB641	TRANSISTOR	1	OR 2SA937M
Q801		2SC2206	TRANSISTOR	1	
Q802		2SD636	TRANSISTOR	1	OR 2SC2021M
Q803		2SD636	TRANSISTOR	1	OR 2SC2021M
Q804		2SC2206	TRANSISTOR	1	NV-H70EV
Q805		2SD636	TRANSISTOR	1	OR 2SC2021M
Q806		2SC2206	TRANSISTOR	1	
			COMBINATION PARTS		
			(TRANSISTORS & RESISTOR)		
QR301		DTC144EA	COMBINATION PARTS	1	OR UN1213
QR302		DTC124EA	COMBINATION PARTS	1	OR UN1212
			DIODES		
D301		MA165	DIODE	1	OR 1SS133,1SS119
D302		MA165	DIODE	1	OR 1SS133,1SS119
D303		MA165	DIODE	1	OR 1SS133,1SS119
D304		MA165	DIODE	1	OR 1SS133,1SS119
D305		MA165	DIODE	1	OR 1SS133,1SS119
D306		MA165	DIODE	1	OR 1SS133,1SS119
D801		MA165	DIODE	1	OR 1SS133,1SS119
D802		MA165	DIODE	1	OR 1SS133,1SS119
					NV-H70EV
			RESISTORS		
R301		ERDS2TJ561	CARBON 1/4W 560	1	
R302		ERDS2TJ561	CARBON 1/4W 560	1	
R303		ERDS2TJ221	CARBON 1/4W 220	1	
R304		ERDS2TJ681	CARBON 1/4W 680	1	
R305		ERDS2TJ102	CARBON 1/4W 1K	1	
R306		ERDS2TJ151	CARBON 1/4W 150	1	
R307		ERDS2TJ152	CARBON 1/4W 1.5K	1	
R308		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R309		ERDS2TJ684	CARBON 1/4W 680K	1	
R311		ERDS2TJ103	CARBON 1/4W 10K	1	
R312		ERDS2TJ103	CARBON 1/4W 10K	1	
R313		ERDS2TJ393	CARBON 1/4W 39K	1	
R314		ERDS2TJ152	CARBON 1/4W 1.5K	1	
R315		ERDS2TJ272	CARBON 1/4W 2.7K	1	
R317		ERDS2TJ152	CARBON 1/4W 1.5K	1	
R318		ERDS2TJ152	CARBON 1/4W 1.5K	1	
R319		ERDS2TJ561	CARBON 1/4W 560	1	
R320		ERDS2TJ392	CARBON 1/4W 3.9K	1	
R321		ERDS2TJ683	CARBON 1/4W 68K	1	
R322		ERDS2TJ394	CARBON 1/4W 390K	1	
R323		ERDS2TJ394	CARBON 1/4W 390K	1	
R324		ERDS2TJ824	CARBON 1/4W 820K	1	
R325		ERDS2TJ102	CARBON 1/4W 1K	1	
R326		ERDS2TJ183	CARBON 1/4W 18K	1	
R327		ERDS2TJ123	CARBON 1/4W 12K	1	
R350		ERDS2TJ102	CARBON 1/4W 1K	1	
R351		ERDS2TJ823	CARBON 1/4W 82K	1	
R801		ERDS2TJ102	CARBON 1/4W 1K	1	
R802		ERDS2TJ101	CARBON 1/4W 100	1	

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R805		ERDS2TJ122	CARBON 1/4W 1.2K	1	
R806		ERDS2TJ271	CARBON 1/4W 270	1	
R807		ERDS2TJ272	CARBON 1/4W 2.7K	1	
R811		ERDS2TJ102	CARBON 1/4W 1K	1	
R812		ERDS2TJ471	CARBON 1/4W 470	1	
R813		ERDS2TJ104	CARBON 1/4W 100K	1	
R814		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R815		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R816		ERDS2TJ821	CARBON 1/4W 820	1	
R817		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R818		ERDS2TJ273	CARBON 1/4W 27K	1	
R819		ERDS2TJ470	CARBON 1/4W 47	1	
R820		ERDS2TJ682	CARBON 1/4W 6.8K	1	
R821		ERDS2TJ822	CARBON 1/4W 8.2K	1	
R822		ERDS2TJ182	CARBON 1/4W 1.8K	1	
R823		ERDS2TJ152	CARBON 1/4W 1.5K	1	
R824		ERDS2TJ272	CARBON 1/4W 2.7K	1	
R825		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R827		ERDS2TJ473	CARBON 1/4W 47K	1	NV-H70EV
R828		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R829		ERDS2TJ563	CARBON 1/4W 56K	1	
R830		ERDS2TJ563	CARBON 1/4W 56K	1	
R831		ERDS2TJ102	CARBON 1/4W 1K	1	
R832		ERDS2TJ271	CARBON 1/4W 270	1	
R833		ERDS2TJ471	CARBON 1/4W 470	1	
R834		ERDS2TJ121	CARBON 1/4W 120	1	
			VARIABLE RESISTORS		
VR801		EVMHOGA00B52	500	1	
			CAPACITORS		
C301		ECKF1H271KB	CERAMIC 50V 270P	1	
C302		ECEA0JU331	ELECTROLYTIC 6.3V 330U	1	
C303		ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C304		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C305		VCKD1H151JA	CERAMIC 50V 150P	1	
C306		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C307		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C309		ECCF1H560JC	CERAMIC 50V 56P	1	
C310		ECKF1H221KB	CERAMIC 50V 220P	1	
C311		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C312		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C314		ECEA1EK4R7	ELECTROLYTIC 25V 4.7U	1	
C315		ECEA1EKN2R2	ELECTROLYTIC 25V 2.2U	1	
C316		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C317		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C318		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C319		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C320		VCYD1E332KR	SEMICONDUCTOR 25V 3300P	1	
C321		VCYD1E332KR	SEMICONDUCTOR 25V 3300P	1	
C322		VCYDIC104MR1	SEMICONDUCTOR 16V 0.1U	1	NV-H70EG
C323		ECKF1H561KB	CERAMIC 50V 560P	1	
C324		ECCF1H220JC	CERAMIC 50V 22P	1	
C325		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C326		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C327		ECEA1HKN0R1	ELECTROLYTIC 50V 0.1U	1	
C330		ECCF1H220JC	CERAMIC 50V 22P	1	
C331		ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C802		ECQB1H223JH	MYLAR 50V 0.022U	1	
C803		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C804		ECCF1H270JC	CERAMIC 50V 27P	1	
C805		ECKF1H471KB	CERAMIC 50V 470P	1	
C806		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C807		ECEA1HK2R2	ELECTROLYTIC 50V 2.2U	1	
C808		ECEA10Z100	ELECTROLYTIC 10V 100U	1	
C809		ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C810		ECCF1H050CC	CERAMIC 50V 5P	1	
C811		ECKF1H102KB	CERAMIC 50V 1000P	1	
C812		ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C813		ECQV1H154JZ	MYLAR 50V 0.15U	1	
C814		ECKF1H103ZF	CERAMIC 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C815		ECKF1H471KB	CERAMIC 50V 470P	1	
C816		ECEA1CK470	ELECTROLYTIC 16V 47U	1	
C817		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C820		VCYD1C104MR1	SEMICONDUCTOR 16V 0.1U	1	
C821		VCYD1C104MR1	SEMICONDUCTOR 16V 0.1U	1	
C822		ECQV1H473JZ	MYLAR 50V 0.047U	1	
C823		ECQV1H473JZ	MYLAR 50V 0.047U	1	
C824		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C825		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
			CAPACITORS		
			(CAPACITOR & RESISTOR)		
CR801		EXED820K332C	C & R 82P 3.3K	1	
			COILS		
L301		VLQEL05F150K	COIL 15UH	1	
L302		VLQEL05F150K	COIL 15UH	1	
L303		VLQEL05F101K	COIL 100UH	1	
L304		VLQEL05F6R8K	COIL 6.8UH	1	
L306		VLQEL05F820K	COIL 82UH	1	
L307		VLQEL05F101K	COIL 100UH	1	
L308		VLQEL05F101K	COIL 100UH	1	
L309		VLQEL05F101K	COIL 100UH	1	
L310		VLQEL05F101K	COIL 100UH	1	
L801		VLQEL05F150K	COIL 15UH	1	
L802		VLQEL05F470K	COIL 47UH	1	
L803		VLQEL05F270K	COIL 27UH	1	
L804		VLQEL05F151K	COIL 150UH	1	
L805		VLQEL05F101K	COIL 100UH	1	
L806		VLQEL05F470K	COIL 47UH	1	
L807		VLQEL05F681K	COIL 680UH	1	
L808		VLQEL05F681K	COIL 680UH	1	
L809		VLQEL05F331K	COIL 330UH	1	
L810		VLQEL05F101K	COIL 100UH	1	
			DELAY LINES		
DL301		EFDVN645A43D		1	
DL801		VLD0080		1	OR EFDHR124A13A
			FILTERS		
FL301		ELB4M022		1	
FL302		VLF0333		1	OR VLF0333
FL303		ELB4H020		1	OR VLF0413
FL801		VLF0299		1	
			CONNECTORS		
P301		VJP1232T	5P	1	
P302		VJP1230T	3P	1	
P801		VJP1232T	5P	1	
			CRYSTAL OSCILLATOR		
X301		VSX0099		1	OR EF0A500K04D2
X801		VSX0162		1	VSX0129
			COMBINATION PARTS		
Z801		VCR0118	(RESISTOR&RESISTOR)	1	OR VCR0135
Z802		VCR0119	(RESISTOR&RESISTOR)	1	OR VCR0137
Z803		VCR0120	(RESISTOR&RESISTOR)	1	OR VCR0136

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP03294A	SECAM PACK C.B.A		NV-H70EG
			INTEGRATED CIRCUIT		
IC851		BA70251	IC	1	
			TRANSISTOR		
Q851		2CS2206	TRANSISTOR	1	(A,B,C)
			COMBINATION PARTS		
			(TRANSISTORS & RESISTORS)		
QR851		DTC124EA	COMBINATION PARTS	1	OR UN1212
QR852		DTC124EA	COMBINATION PARTS	1	OR UN1212
			RESISTORS		
R854		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R855		ERDS2TJ223	CARBON 1/4W 22K	1	
R856		ERDS2TJ390	CARBON 1/4W 39	1	
R857		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R858		ERDS2TJ154	CARBON 1/4W 150K	1	
R859		ERDS2TJ221	CARBON 1/4W 220	1	
R860		ERDS2TJ102	CARBON 1/4W 1K	1	
R861		ERDS2TJ103	CARBON 1/4W 10K	1	
			CAPACITORS		
C851		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C852		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C853		ECEA1CK330	ELECTROLIC 16V 33U	1	
C854		ECKF1H681KB	CERAMIC 50V 680P	1	
C855		ECEA1AK470	ELECTROLIC 10V 47U	1	
C856		ECEA1CK330	ELECTROLIC 16V 33U	1	
C857		ECQV1H563JZ	MYLAR 50V 0.056U	1	
C858		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
			COIL		
L851		VLQEL05F101K	COIL 100UH	1	
			TRANSFORMER		
T851		ELM7Q207A		1	
			FILTER		
FL851		VLF0143		1	
	■	VEP03310E	INPUT SELECT PACK C,B,A		NV-H70EG
	■	VEP03310F			NV-H70EV
			INEGRATED CIRCUIT		
IC3501		TA7348P	IC	1	
IC4301		UPD4052BC	IC	1	
IC4302		AN6558	IC	1	
			TRANSISTOR		
Q3501		2SB641	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			COMBINATION PARTS		
			(TRANSISTOR & RESISTOR)		
QR3501		UN1213	COMBINATION PARTS	1	OR DTC144EA
QR3502		UN1213	COMBINATION PARTS	1	OR DTC144EA
QR3503		UN1213	COMBINATION PARTS	1	OR DTC144EA
			DIODES		
D3501		MA165	DIODE	1	
D3502		MA165	DIODE	1	
D3503		MA165	DIODE	1	
D3504		MA165	DIODE	1	
D3505		MA165	DIODE	1	
D4301		RD6.2JB	DIODE	1	
D4302		MA165	DIODE	1	
D4303		MA165	DIODE	1	
D4304		MA165	DIODE	1	
D4305		MA165	DIODE	1	
			RESISTETORS		
R3501		ERDS2TJ750	CARBON 1/4W 75	1	
R3502		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R3503		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R3504		ERDS2TJ750	CARBON 1/4W 75	1	
R3505		ERDS2TJ750	CARBON 1/4W 75	1	
R3506		ERDS2TJ223	CARBON 1/4W 22K	1	
R3507		ERDS2TJ103	CARBON 1/4W 10K	1	
R3508		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R3509		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R3510		ERG1ANJ121	METAL	1	
R3513		ERDS2TJ104	CARBON 1/4W 100K	1	
R4301		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R4302		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R4303		EROS2CKG8201	MENTAL OXIDE 1/4W 8.2K	1	
R4304		EROS2CKG8201	MENTAL OXIDE 1/4W 8.2K	1	
R4305		ERDS2TJ123	CARBON 1/4W 12K	1	
R4306		ERDS2TJ474	CARBON 1/4W 470K	1	
R4307		ERDS2TJ474	CARBON 1/4W 470K	1	
R4308		ERDS2TJ223	CARBON 1/4W 22K	1	
R4309		ERDS2TJ474	CARBON 1/4W 470K	1	
R4310		ERDS2TJ684	CARBON 1/4W 680K	1	
R4311		ERDS2TJ474	CARBON 1/4W 470K	1	
R4312		ERDS2TJ684	CARBON 1/4W 680K	1	
R4313		ERDS2TJ224	CARBON 1/4W 220K	1	
R4314		ERDS2TJ474	CARBON 1/4W 470K	1	
R4315		ERDS2TJ123	CARBON 1/4W 12K	1	
R4316		ERDS2TJ223	CARBON 1/4W 22K	1	
R4317		ERDS2TJ474	CARBON 1/4W 470K	1	
R4318		ERDOS2CKG1202	MENTAL OXIDE 1/4W 12K	1	
R4319		ERDS2TJ563	CARBON 1/4W 56K	1	
R4320		EROS2CKG6802	MENTAL OXIDE 1/4W 68K	1	
R4321		EROS2CKG6802	MENTAL OXIDE 1/4W 68K	1	
R4322		EROS2CKG1202	MENTAL OXIDE 1/4W 12K	1	
R4323		ERDS2TJ563	CARBON 1/4W 56K	1	
R4324		ERDS2TJ473	CARBON 1/4W 47K	1	
R4325		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R4326		ERDS2TJ473	CARBON 1/4W 47K	1	
R4327		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R4328		ERDS2TJ471	CARBON 1/4W 470	1	NV-H70EG
R4329		ERDS2TJ101	CARBON 1/4W 100	1	
R4330		ERDS2TJ471	CARBON 1/4W 470	1	NV-H70EG
R4331		ERDS2TJ101	CARBON 1/4W 100	1	
R4332		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R4333		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R4334		ERDS2TJ471	CARBON 1/4W 470	1	NV-H70EG
R4335		ERDS2TJ471	CARBON 1/4W 470	1	NV-H70EG
R4336		ERDS2TJ473	CARBON 1/4W 47K	1	
R4337		ERDS2TJ473	CARBON 1/4W 47K	1	
R4338		ERDS2TJ471	CARBON 1/4W 470	1	NV-H70EV
R4339		ERDS2TJ471	CARBON 1/4W 470	1	NV-H70EV

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4340		ERDS2TJ471	CARBON 1/4W 470	1	NV-H70EV
R4341		ERDS2TJ471	CARBON 1/4W 470	1	NV-H70EV
			CAPACITORS		
C3501		ECEA1CKS220	ELECTROLYTIC 16V 22U	1	
C3502		ECEA1CK220	ELECTROLYTIC 16V 22U	1	
C3503		ECEA1CK220	ELECTROLYTIC 16V 22U	1	
C3504		ECEA1CKS470	ELECTROLYTIC 16V 47U	1	
C3505		ECQV1H104JZ	MYLAR 50V 0.1U	1	
C3506		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C3507		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C4301		ECEA1CK330	ELECTROLYTIC 16V 33U	1	
C4302		ECEA1AK101	ELECTROLYTIC 10V 100U	1	
C4303		ECEA1AK330	ELECTROLYTIC 10V 33U	1	
C4304		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C4305		ECEA1AK101	ELECTROLYTIC 10V 100U	1	
C4306		ECEA1AK101	ELECTROLYTIC 10V 100U	1	
C4307		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C4308		ECKF1H101KB	CERAMIC 50V 100P	1	
C4309		ECKF1H101KB	CERAMIC 50V 100P	1	
C4310		ECQB1H682JH	MYLAR 50V 6800P	1	NV-H70EG
C4311		ECQB1H183JH	MYLAR 50V 0.018U	1	NV-H70EG
C4312		ECKF1H222KB	CERAMIC 50V 2200P	1	
C4313		ECQB1H682JH	MYLAR 50V 6800P	1	NV-H70EG
C4314		ECQB1H183JH	MYLAR 50V 0.018U	1	NV-H70EG
C4315		ECKF1H222KB	CERAMIC 50V 2200P	1	
C4316		ECQB1H183JH	MYLAR 50V 0.018U	1	NV-H70EG
C4317		ECQB1H682JH	MYLAR 50V 6800P	1	NV-H70EG
C4318		ECQB1H183JH	MYLAR 50V 0.018U	1	NV-H70EG
C4319		ECQB1H682JH	MYLAR 50V 6800P	1	NV-H70EG
C4320		ECKF1H101KB	CERAMIC 50V 100P	1	
C4321		ECKF1H101KB	CERAMIC 50V 100P	1	
C4322		ECKF1H103ZF	CERAMIC 50V 0.01P	1	
			COILS		
L4301		VLQEL05F102K	COIL 1000UH	1	NV-H70EG
L4302		VLQEL05F102K	COIL 1000UH	1	NV-H70EG
L4303		VLQEL05F102K	COIL 1000UH	1	NV-H70EG
L4304		VLQEL05F102K	COIL 1000UH	1	NV-H70EG
			SWITCHES		
SW3501		VSS0152		1	
			CONNECTORS		
P4301		VJP1231T	4P	1	
P4302		VJP1230T	3P	1	
			MISCELLANEOUS		
	■	VEJ0496	REAT JACK BOARD		
	■	VEP03339A	HQ PACK C,B,A,		
			TRANSISTORS		
Q3602		2SB641	TRANSISTOR	1	
Q3603		2SB641	TRANSISTOR	1	
Q3604		2SD636	TRANSISTOR	1	
Q3605		2SB641	TRANSISTOR	1	
Q8501		2SD636	TRANSISTOR	1	
Q8502		2SC2206	TRANSISTOR	1	
Q8503		2SC2206	TRANSISTOR	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q8504		2SC2206	TRANSISTOR	1	
Q8505		2SC2206	TRANSISTOR	1	
Q8506		2SC2206	TRANSISTOR	1	
Q8507		2SC2206	TRANSISTOR	1	
Q8508		2SD636	TRANSISTOR	1	
Q8511		2SC2206	TRANSISTOR	1	
			COMBINATION PARTS		
			(TRANSISTOR&RESISTOR)		
QR3601		UN1211	COMBINATION PART	1	OR DTC114EA
QR8501		UN1212	COMBINATION PART	1	OR DTC124EA
			DIODES		
D3601		1SS99	DIODE	1	
D3602		1SS99	DIODE	1	
D8501		1SS99	DIODE	1	
D8502		1SS99	DIODE	1	
			RESISTORS	1	
R3601		ERDS2TJ471	CARBON 1/4W 470	1	
R3602		ERDS2TJ471	CARBON 1/4W 470	1	
R3603		ERDS2TJ471	CARBON 1/4W 470	1	
R3604		ERDS2TJ182	CARBON 1/4W 1.8K	1	
R3606		ERDS2TJ102	CARBON 1/4W 1K	1	
R3607		ERDS2TJ560	CARBON 1/4W 56	1	
R3608		ERDS2TJ221	CARBON 1/4W 220	1	
R3609		ERDS2TJ823	CARBON 1/4W 82K	1	
R3610		ERDS2TJ183	CARBON 1/4W 18K	1	
R3611		ERDS2TJ102	CARBON 1/4W 1K	1	
R3612		ERDS2TJ681	CARBON 1/4W 680	1	
R3613		ERDS2TJ151	CARBON 1/4W 150	1	
R8501		ERDS2TJ183	CARBON 1/4W 18K	1	
R8502		ERDS2TJ103	CARBON 1/4W 10K	1	
R8503		ERDS2TJ122	CARBON 1/4W 1.2K	1	
R8504		ERDS2TJ221	CARBON 1/4W 220	1	
R8505		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R8506		ERDS2TJ122	CARBON 1/4W 1.2K	1	
R8507		ERDS2TJ271	CARBON 1/4W 270	1	
R8508		ERDS2TJ122	CARBON 1/4W 1.2K	1	
R8509		ERDS2TJ563	CARBON 1/4W 56K	1	
R8510		ERDS2TJ223	CARBON 1/4W 22K	1	
R8511		ERDS2TJ272	CARBON 1/4W 2.7K	1	
R8512		ERDS2TJ122	CARBON 1/4W 1.2K	1	
R8513		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R8514		ERDS2TJ122	CARBON 1/4W 1.2K	1	
R8515		ERDS2TJ122	CARBON 1/4W 1.2K	1	
R8516		ERDS2TJ122	CARBON 1/4W 1.2K	1	
R8517		ERDS2TJ122	CARBON 1/4W 1.2K	1	
R8518		ERDS2TJ471	CARBON 1/4W 470	1	
R8519		ERDS2TJ151	CARBON 1/4W 150	1	
R8520		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R8521		ERDS2TJ471	CARBON 1/4W 470	1	
R8522		ERDS2TJ272	CARBON 1/4W 2.7K	1	
R8523		ERDS2TJ152	CARBON 1/4W 1.5K	1	
R8524		ERDS2TJ911	CARBON 1/4W 910	1	
R8529		ERDS2TJ821	CARBON 1/4W 820	1	
R8530		ERDS2TJ333	CARBON 1/4W 33K	1	
R8531		ERDS2TJ103	CARBON 1/4W 10K	1	
R8532		ERDS2TJ471	CARBON 1/4W 470	1	
			VARIABLE RESISTORS		
VR3011		EVN32CA00B22	200	1	
VR8007		EVN3ACA00B52	500	1	
			CAPACITORS		

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3601		ECCF1H121JC	CERAMIC 50V 120P	1	
C3602		ECKF1H271KB	CERAMIC 50V 270P	1	
C3603		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C3604		ECEA1CK470	ELECTROLYTIC 16V 47U	1	
C3605		ECCF1H330JC	CERAMIC 50V 33P	1	
C3606		ECCF1H100DC	CERAMIC 50V 10P	1	
C3607		ECCF1H220JC	CERAMIC 50V 22P	1	
C8501		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C8502		ECCF1H070CC	CERAMIC 50V 7P	1	
C8503		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C8504		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C8505		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C8506		VCYD1C104MR1	SEMICONDUCTOR 16V 0.1U	1	
C8507		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C8508		VCYD1C104MR1	SEMICONDUCTOR 16V 0.1U	1	
C8509		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C8510		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C8511		ECCF1H050CC	CERAMIC 50V 5P	1	
C8512		ECEA1CK470	ELECTROLYTIC 16V 47U	1	
C8513		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C8515		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C8516		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
			COILS		
L3601		VLQEL05F101K	100UH	1	
L3602		VLQEL05F390K		1	
L8501		EIK7EG001B	39UH	1	
L8502		VLQEL05F150K	15UH	1	
L8503		VLQEL05F101K	100UH	1	
			DELAY LINE		
DL8501		VLD0089		1	
	■	VEP04152	AUDIO PACK C,B,A		
			INTEGRATED CIRCUITS		
IC401		UPC1514CA	IC	1	
IC402		TA7361AP	IC	1	UPC1519HA
			TRANSISTORS		
Q401		2SD602A	TRANSISTOR CHIP	1	(R)
Q404		2SD1328	TRANSISTOR	1	(S,T)
			RESISTORS		
R401		ERJ6GMYJ153	CHIP 1/16W 15K	1	
R402		ERJ6GMYJ392	CHIP 1/16W 3.9K	1	
R403		ERJ6GMYJ182	CHIP 1/16W 1.8K	1	
R404		ERJ6GMYJ560	CHIP 1/16W 56	1	
R405		ERJ6GMYJ105	CHIP 1/16W 1M	1	
R406		ERJ6GMYJ681	CHIP 1/16W 680	1	
R407		ERJ6GMYJ102	CHIP 1/16W 1K	1	
R408		ERJ6GMYJ124	CHIP 1/16W 120K	1	
R410		ERJ6GMYJ392	CHIP 1/16W 3.9K	1	
R411		ERJ6GMYJ331	CHIP 1/16W 330	1	
R413		ERJ6GMYJ332	CHIP 1/16W 3.3K	1	
R415		ERJ6GMYJ563	CHIP 1/16W 56K	1	
R418		ERJ6GMYJ102	CHIP 1/16W 1K	1	
R419		ERJ6GMYJ392	CHIP 1/16W 3.9K	1	
R420		ERJ6GMYJ561	CHIP 1/16W 560	1	
R422		ERJ6GMYJ562	CHIP 1/16W 5.6K	1	
R425		ERJ6GMYJ332	CHIP 1/16W 3.3K	1	
R426		ERJ6GMYJ102	CHIP 1/16W 1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			CAPACITORS		
C401		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C402		ECUX1H471KBN	CERAMIC 50V 470P	1	
C403		ECEA1CKL100	ELECTROLYTIC 16V 10U	1	
C404		ECQP1222JZ	MYLAR 100V 2200P	1	
C405		ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C406		ECEA1CK470	ELECTROLYTIC 16V 47U	1	
C407		ECUX1H101JCN	CERAMIC 50V 100P	1	
C408		ECSF1CD106	TANTALUM 16V 10U	1	
C409		ECEA0JK101	ELECTROLYTIC 6.3V 100U	1	
C410		ECQB1H683JH	MYLAR 50V 0.068U	1	
C411		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C412		ECEA1AK330	ELECTROLYTIC 10V 33U	1	
C414		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C416		ECQB1H223JH	MYLAR 50V 0.022U	1	
C417		ECQB1H333JH	MYLAR 50V 0.033U	1	
C418		ECSF1CD106	TANTALUM 16V 10U	1	
C419		ECEA1AK330	ELECTROLYTIC 10V 33U	1	
C420		ECEA1CK470	ELECTROLYTIC 16V 47U	1	
C421		ECCD2H121K	CERAMIC 500V 120P	1	
C422		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C423		ECQB1H273JH	MYLAR 50V 0.027U	1	
C424		ECEA1HKS010	ELECTROLYTIC 50V 1U	1	
			CAPACITORS		
			(CAPACITOR & RESISTOR)		
CR401		EXED103Z153C	C & R 0.01U 15K	1	
CR402		EXED102K473C	C & R 1000P 47K	1	
			COILS		
L401		VLQEL05F471K	COIL 470UH	1	
L402		VLQEL07F822J	COIL 8200UH	1	
			FILTER		
FL401		VLF0332		1	
			TRANSFORMER		
T401		EIQ7QF013Q		1	
			PACK PINS		
PK401		VJR0131W		1	
PK402		VJR0128W		1	
	■	VEP04151A	OUTPUT SELECT PACK C,B,A,		<!>
			INTEGRATED CIRCUIT		
IC4401		BA7056LS	IC	1	
IC4402		AN6552	IC	1	OR UPC4558
IC4403		AN6552	IC	1	OR UPC4558
			TRANSISTORS		
Q4401		2SD1330	TRANSISTOR	1	OR 2SD655,2SD1657
Q4402		2SD1330	TRANSISTOR	1	OR 2SD655,2SD1657

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			COMBINATION PARTS		
			(TRANSISTORS & RESISTOR)		
QR4401		UN1212	COMBINATION PARTS	1	OR DTC124EA
QR4402		UN1112	COMBINATION PARTS	1	OR DTA124EA
			DIODE		
D4401		MA165	DIODE	1	
			RESISTORS		
R4401		ERDS2TJ822	CARBON 1/4W 8.2K	1	
R4404		ERDS2TJ823	CARBON 1/4W 82K	1	
R4405		ERDS2TJ473	CARBON 1/4W 47K	1	
R4406		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R4407		ERDS2TJ101	CARBON 1/4W 100	1	
R4408		ERDS2TJ101	CARBON 1/4W 100	1	
R4409		ERQ14AJ330P	FUSE 1/4W 33	1	<!>
R4412		ERDS2TJ682	CARBON 1/4W 6.8K	1	
R4413		ERDS2TJ473	CARBON 1/4W 47K	1	
R4414		ERDS2TJ682	CARBON 1/4W 6.8K	1	
R4415		ERDS2TJ473	CARBON 1/4W 47K	1	
R4416		ERDS2TJ393	CARBON 1/4W 39K	1	
R4418		ERDS2TJ182	CARBON 1/4W 1.8K	1	
R4419		ERDS2TJ102	CARBON 1/4W 1K	1	
R4420		ERDS2TJ333	CARBON 1/4W 33K	1	
R4421		ERDS2TJ104	CARBON 1/4W 100K	1	
R4422		ERDS2TJ473	CARBON 1/4W 47K	1	
R4423		ERDS2TJ221	CARBON 1/4W 220	1	
R4424		ERDS2TJ474	CARBON 1/4W 470K	1	
R4425		ERDS2TJ474	CARBON 1/4W 470K	1	
R4427		ERDS2TJ333	CARBON 1/4W 33K	1	
R4428		ERDS2TJ473	CARBON 1/4W 47K	1	
R4429		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R4430		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R4431		ERDS2TJ221	CARBON 1/4W 220	1	
R4432		ERDS2TJ124	CARBON 1/4W 120K	1	
R4433		ERDS2TJ124	CARBON 1/4W 120K	1	
R4434		ERDS2TJ104	CARBON 1/4W 100K	1	
R4435		ERDS2TJ123	CARBON 1/4W 12K	1	
R4436		ERDS2TJ332	CARBON 1/4W 3.3K	1	
R4437		ERDS2TJ221	CARBON 1/4W 220	1	
R4438		ERDS2TJ332	CARBON 1/4W 3.3K	1	
R4439		ERDS2TJ103	CARBON 1/4W 10K	1	
R4440		ERDS2TJ103	CARBON 1/4W 10K	1	
			CAPACITORS		
C4401		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C4402		ECEA1AK101	ELECTROLYTIC 10V 100U	1	
C4403		ECEA1AK101	ELECTROLYTIC 10V 100U	1	
C4404		ECEA1CK330	ELECTROLYTIC 16V 33U	1	
C4405		ECEA1AK330	ELECTROLYTIC 10V 33U	1	
C4406		ECEA1HK2R2	ELECTROLYTIC 50V 2.2U	1	
C4407		ECEA1EKN3R3B	ELECTROLYTIC 25V 3.3U	1	
C4408		ECEA1EKN3R3B	ELECTROLYTIC 25V 3.3U	1	
C4409		ECEA1EK3R3	ELECTROLYTIC 25V 3.3U	1	
C4410		ECEA1CK470	ELECTROLYTIC 16V 47U	1	
C4411		ECEA1EK4R7	ELECTROLYTIC 25V 4.7U	1	
C4412		ECEA1EK4R7	ELECTROLYTIC 25V 4.7U	1	
C4413		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C4414		ECQB1H102JH	MYLAR 50V 1000P	1	
C4415		ECQB1H102JH	MYLAR 50V 1000P	1	
C4416		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C4417		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C4420		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C4421		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C4422		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C4423		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C4424		ECEA1HK010	ELECTROLYTIC 50V 1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4425		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C4427		ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C4428		ECEA1CK330	ELECTROLYTIC 16V 33U	1	
C4429		ECQB1H393JH	MYLAR 50V 0.039U	1	
C4430		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C4431		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
			MISCELLANEOUS		
		VJF0368	C,B, SUPORT	2	
	■	VEP04150A	FM AUDIO PACK C.B.A.		
			INTEGRATED CIRCUITS		
IC4501		VEFA008	IC	1	F.I.C
IC4502		VEFA009	IC	1	F.I.C
IC4503		AN3920K	IC	1	
IC4504		AN78L05	IC	1	
IC4505		TA7302P	IC	1	
IC4506		TA7302P	IC	1	
			TRANSISTORS		
Q4501		2SD1330	TRANSISTOR	1	OR 2SD1657
Q4502		2SD1330	TRANSISTOR	1	OR 2SD1657
Q4503		2SD1330	TRANSISTOR	1	OR 2SD1657
Q4504		2SD1330	TRANSISTOR	1	OR 2SD1657
Q4505		2SD1330	TRANSISTOR	1	OR 2SD1657
			COMBINATION PART		
			(TRANSISTORS & RESISTOR)		
QR4501		2SD1676		1	
			DIODES		
D4501		MA165	DIODE	1	
D4502		MA165	DIODE	1	
D4503		MA165	DIODE	1	
			RESISTORS		
R4502		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R4503		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R4504		ERDS2TJ682	CARBON 1/4W 6.8K	1	
R4505		ERDS2TJ182	CARBON 1/4W 1.8K	1	
R4506		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R4507		ERDS2TJ182	CARBON 1/4W 1.8K	1	
R4508		ERDS2TJ182	CARBON 1/4W 1.8K	1	
R4509		ERDS2TJ102	CARBON 1/4W 1K	1	
R4510		ERDS2TJ102	CARBON 1/4W 1K	1	
R4511		ERDS2TJ102	CARBON 1/4W 1K	1	
R4512		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R4513		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R4514		ERDS2TJ473	CARBON 1/4W 47K	1	
R4515		ERDS2TJ273	CARBON 1/4W 27K	1	
R4516		ERDS2TJ332	CARBON 1/4W 3.3K	1	
R4524		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R4525		ERDS2TJ101	CARBON 1/4W 100	1	
R4526		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R4527		ERDS2TJ391	CARBON 1/4W 390	1	
R4528		EROS2CKG3300	METAL OXIDE 1/4W 330	1	
R4529		EROS2CKG6800	METAL OXIDE 1/4W 680	1	

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4530		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R4531		ERDS2TJ105	CARBON 1/4W 1000K	1	
R4532		ERDS2TJ105	CARBON 1/4W 1000K	1	
R4533		ERDS2TJ105	CARBON 1/4W 1000K	1	
R4534		ERDS2TJ105	CARBON 1/4W 1000K	1	
			CAPACITORS		
C4501		ECEA1HK2R2	ELECTROLYTIC 50V 2.2U	1	
C4502		ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C4503		ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C4505		ECEA1CKL100	ELECTROLYTIC 16V 10U	1	
C4506		ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C4507		ECEA16Z10	ELECTROLYTIC 16V 10U	1	
C4508		ECQB1H223JH	MYLAR 50V 0.022U	1	
C4509		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C4510		ECEA0JK220	ELECTROLYTIC 6.3V 22U	1	
C4511		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C4512		ECEA1EKN3R3	ELECTROLYTIC 25V 3.3U	1	
C4513		ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C4514		ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C4515		ECEA0JKN470	ELECTROLYTIC 6.3V 47U	1	
C4516		ECQB1H103JH	MYLAR 50V 0.01U	1	
C4518		ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C4519		ECKF1H391KB	CERAMIC 50V 390P	1	
C4520		ECEA1CK470	ELECTROLYTIC 16V 47U	1	
C4521		ECQB1H821JH	MYLAR 50V 820P	1	
C4522		ECEA1EKL4R7	ELECTROLYTIC 25V 4.7U	1	
C4531		ECEA1HK2R2	ELECTROLYTIC 50V 2.2U	1	
C4532		ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C4533		ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C4535		ECEA1CKL100	ELECTROLYTIC 16V 10U	1	
C4536		ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C4537		ECEA16Z10	ELECTROLYTIC 16V 10U	1	
C4538		ECQB1H223JH	MYLAR 50V 0.022U	1	
C4539		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C4540		ECEA0JK220	ELECTROLYTIC 6.3V 22U	1	
C4541		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C4542		ECEA1EKN3R3	ELECTROLYTIC 25V 3.3U	1	
C4543		ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C4544		ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C4545		ECEA0JKN470	ELECTROLYTIC 6.3V 47U	1	
C4546		ECQB1H103JH	MYLAR 50V 0.01U	1	
C4548		ECEA1AK470	ELECTROLYTIC 10V 47U	1	
C4549		ECKF1H391KB	CERAMIC 50V 390P	1	
C4550		ECEA1CK470	ELECTROLYTIC 16V 47U	1	
C4551		ECQB1H821JH	MYLAR 50V 820P	1	
C4552		ECEA1EKL4R7	ELECTROLYTIC 25V 4.7U	1	
C4561		ECEA1HK0R1	ELECTROLYTIC 50V 0.1U	1	
C4562		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C4563		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C4564		ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	
C4565		ECEA1HK2R2	ELECTROLYTIC 50V 2.2U	1	
C4566		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C4567		ECKF1H102KB	CERAMIC 50V 1000P	1	
C4568		ECKF1H471KB	CERAMIC 50V 470P	1	
C4569		ECKF1H221KB	CERAMIC 50V 220P	1	
C4570		ECQV1H154JZ	MYLAR 50V 0.15U	1	
C4571		ECEA1CU221	ELECTROLYTIC 16V 220U	1	
C4572		ECEA1CU221	ELECTROLYTIC 16V 220U	1	
C4573		ECEA10Z100	ELECTROLYTIC 10V 100U	1	
C4574		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C4575		VCYD1E473KR	SEMICONDUCTOR 25V 0.047U	1	
C4576		VCYD1E473KR	SEMICONDUCTOR 25V 0.047U	1	
C4577		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C4578		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C4579		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C4580		VCYD1E473KR	SEMICONDUCTOR 25V 0.047U	1	
C4581		VCYD1E473KR	SEMICONDUCTOR 25V 0.047U	1	
C4582		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C4583		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C4584		ECEA16Z10	ELECTROLYTIC 16V 10U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			COILS		
L4501		VLQEL05F101K	COIL 100UH	1	
L4502		VLQEL05F101K	COIL 100UH	1	
			FILTERS		
FL4501		VLF0440		1	
FL4502		VLF0440		1	
FL4503		VLF0442		1	
FL4504		VLF0441		1	
FL4505		VLF0443		1	OR VLF0444
FL4506		VLF0445		1	OR VLF0446
			MISCELLANEOUS		
		VJR0130	PACK PIN	2	
	■	VEP07325B	TVDEMODULATOR C.B.A.		
			INTEGRATED CIRCUITS		
IC701		M51366SP	IC	1	
IC751		AN5215	IC	1	
			TRANSISTORS		
Q703		2SD636	TRANSISTOR	1	(S,T)
Q710		2SC1047	TRANSISTOR	1	(C)
Q711		2SC1687	TRANSISTOR	1	
Q712		2SD638	TRANSISTOR	1	
Q713		2SD1330	TRANSISTOR	1	
Q714		2SD636	TRANSISTOR	1	(Q,R,S,T)OR 2SD637
					,2SD685(Q,R,S,T)
Q715		2SD636	TRANSISTOR	1	(Q,R,S,T)OR 2SD637
					,2SD685(Q,R,S,T)
			COMBINATION PARTS		
			(TRANSISTOR & RESISTOR)		
QR710		UN1214	COMBINATION PARTS	1	OR DTC114YA
QR711		UN1211	COMBINATION PARTS	1	OR DTC114EA
QR712		UN1211	COMBINATION PARTS	1	OR DTC114EA
QR713		UN1211	COMBINATION PARTS	1	OR DTC114EA
QR714		UN1214	COMBINATION PARTS	1	OR DTC114YA
			DIODES		
D710		MA4100L		1	
D712		MA165		1	
			RESISTORS		
R712		ERDS2TJ682	CARBON 1/4W 6.8K	1	
R713		ERDS2TJ681	CARBON 1/4W 680	1	
R714		ERD2FCG330	FUSE 1/4W 33	1	<!>
R715		ERDS2TJ271	CARBON 1/4W 270	1	
R716		ERDS2TJ272	CARBON 1/4W 2.7K	1	
R717		ERDS2TJ332	CARBON 1/4W 3.3K	1	
R718		ERDS2TJ754	CARBON 1/4W 750K	1	
R719		ERDS2TJ103	CARBON 1/4W 10K	1	
R720		ERDS2TJ822	CARBON 1/4W 8.2K	1	
R721		ERDS2TJ332	CARBON 1/4W 3.3K	1	
R722		ERDS2TJ332	CARBON 1/4W 3.3K	1	

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R723		ERDS2TJ104	CARBON 1/4W 100K	1	
R724		ERDS2TJ101	CARBON 1/4W 100	1	
R725		ERDS2TJ152	CARBON 1/4W 1.5K	1	
R726		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R727		ERDS2TJ471	CARBON 1/4W 470	1	
R728		ERDS2TJ681	CARBON 1/4W 680	1	
R729		ERDS2TJ471	CARBON 1/4W 470	1	
R730		ERDS2TJ331	CARBON 1/4W 330	1	
R731		ERDS2TJ182	CARBON 1/4W 1.8K	1	
R732		ERDS2TJ330	CARBON 1/4W 33	1	
R733		ERDS2TJ103	CARBON 1/4W 10K	1	
R734		ERDS2TJ102	CARBON 1/4W 1K	1	
R735		ERDS2TJ151	CARBON 1/4W 150	1	
R736		ERDS2TJ471	CARBON 1/4W 470	1	
R737		ERDS2TJ394	CARBON 1/4W 390K	1	
R738		ERDS2TJ224	CARBON 1/4W 220K	1	
R739		ERDS2TJ102	CARBON 1/4W 1K	1	
R740		ERDS2TJ473	CARBON 1/4W 47K	1	
R741		ERDS2TJ272	CARBON 1/4W 2.7K	1	
R742		ERDS2TJ272	CARBON 1/4W 2.7K	1	
R743		ERDS2TJ470	CARBON 1/4W 47	1	
R744		ERDS2TJ821	CARBON 1/4W 820	1	
R745		ERDS2TJ331	CARBON 1/4W 330	1	
R746		ERDS2TJ181	CARBON 1/4W 180	1	
R747		ERDS2TJ102	CARBON 1/4W 1K	1	
R748		ERDS2TJ750	CARBON 1/4W 75	1	
R750		ERDS2TJ182	CARBON 1/4W 1.8K	1	
R752		ERDS2TJ333	CARBON 1/4W 33K	1	
R753		ERDS2TJ103	CARBON 1/4W 10K	1	
R755		ERDS2TJ102	CARBON 1/4W 1K	1	
R756		ERDS2TJ102	CARBON 1/4W 1K	1	
R757		ERDS2TJ222	CARBON 1/4W 2.2K	1	
R758		ERDS2TJ331	CARBON 1/4W 330K	1	
R759		ERDS2TJ103	CARBON 1/4W 10K	1	
R761		ERD2FCG220	CARBON 1/4W 22	1	<!>
R762		ERDS2TJ471	CARBON 1/4W 470	1	
R763		ERDS2TJ103	CARBON 1/4W 10K	1	
R764		ERDS2TJ822	CARBON 1/4W 8.2K	1	
R765		ERDS2TJ222	CARBON 1/4W 2.2K	1	
			VARIABLE RESISTORS		
VR701		EVN38GA00B23	2K	1	
VR702		EVN38GA00B23	2K	1	
VR741		EVN38CA00B14	10K	1	
VR751		EVN38CA00B14	10K	1	
			CAPACITORS		
C710		ECKF1H103ZF	CERAMIC 50V 0.01	1	
C715		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C716		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C717		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C718		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C719		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C720		ECQB1H103KH	MYLAR 50V 0.01U	1	
C721		ECEA1HKR27	ELECTROLYTIC 50V 0.27U	1	
C722		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C723		ECCF1H120JC	CERAMIC 50V 12P	1	
C724		ECCF1H050CC	CERAMIC 50V 5P	1	
C725		ECQV1H104JZ	MYLAR 50V 0.1U	1	
C727		ECCF1H151J	CERAMIC 50V 150P	1	
C728		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C729		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C730		ECEA1CK220	ELECTROLYTIC 16V 22U	1	
C731		ECEA1CK220	ELECTROLYTIC 16V 22U	1	
C732		ECQV1H224JZ	MYLAR 50V 0.22U	1	
C733		ECCF1H680JC	CERAMIC 50V 68P	1	
C734		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C735		ECCF1H070CC	CERAMIC 50V 7P	1	
C736		ECQB1H103JH	MYLAR 50V 0.01U	1	
C737		ECCF1H560JT	CERAMIC 50V 56P	1	
C738		ECEA1CKN100	ELECTROLYTIC 16V 10U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C739		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C740		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C741		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C742		ECCF1H030CC	CERAMIC 50V 3P	1	
C743		ECCF1H270JR	CERAMIC 50V 27P	1	
C744		ECEA1HKR47	ELECTROLYTIC 50V 0.47U	1	
C745		ECCF1H680JR	CERAMIC 50V 68P	1	
C746		ECCF1H180JC	CERAMIC 50V 18P	1	
C747		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C748		ECEA1CK330	ELECTROLYTIC 16V 33U	1	
C749		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C750		ECQB1H273JH	MYLAR 50V 0.027	1	
C752		ECKF1H102KB	CERAMIC 50V 1000P	1	
C753		ECQB1H103KH	MYLAR 50V 0.01U	1	
C754		ECEA1CK101	ELECTROLYTIC 16V 100U	1	
C755		ECCF1H390JC	CERAMIC 50V 39P	1	
C756		ECCF1H120JC	CERAMIC 50V 12P	1	
C757		ECQB1H102KH	MYLAR 50V 1000P	1	
C758		ECKF1H102KB	CERAMIC 50V 1000P	1	
C759		ECQB1H332KH	MYLAR 50V 3300P	1	
C760		ECQB1H393KH	MYLAR 50V 0.039U	1	
			COILS		
L711		ELQS1R2KB		1	
L712		ELQSR82KB		1	
L713		ELQS1R5KB		1	
L714		ELQS1R2KB		1	
L715		VLQEL05F680K	68UH	1	
L716		VLQEL05F3R3K	3.3UH	1	
L717		VLQEL05F680K	68UH	1	
L718		VLQEL05F680K	68UH	1	
L719		VLQEL05F120K	12UH	1	
			TRANSFORMERS		
T703		EIV7E016F		1	
T704		EIV7E016D		1	
T710		EULBEF022		1	
T711		EIS7E006B		1	
T752		EIS7E006B		1	
			CRYSTAL OSCILLATOR		
X710		VLF0468		1	
X711		EFCS5R5MW3		1	
X712		EFCS5R5MS4B		1	
X713		EFCS5R5MS4B		1	
X714		ELB5A016		1	
X715		ELB5A043		1	
X751		EFCS5R74MS4B		1	
X752		EFCS5R74MS4B		1	
			MISCELLANEOUS		
		VSC1726	SHIELD CASE	1	(BUTTOM)
		VSC1724	SHIELD CASE	1	(TOP)
		VSC1725	SHIELD CASE	1	(MAIN)
		VJR0163	PACK PIN 9P	1	
		VJR0128	PACK PIN 5P	1	
		VJR0162	PACK PIN 8P	1	
	■	VEP07326A	DECODER PACK C.B.A.		
			INTEGRATED CIRCUITS		
IC7301				1	

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			TRANSISTORS		
Q7301		2SD636	TRANSISTOR	1	(Q,R,S,T) OR 2SD637,
					2SC1685(Q,R,S,T)
Q7302		2SD636	TRANSISTOR	1	(Q,R,S,T) OR 2SD637,
					2SC1685(Q,R,S,T)
Q7303		2SD636	TRANSISTOR	1	(Q,R,S,T) OR 2SD637,
					2SC1685(Q,R,S,T)
			COMBINATION PARTS		
			(TRANSISTORS & RESISTOR)		
QR7311		UN1214	COMBINATION PART	1	DTC114YA
QR7312		UN1211	COMBINATION PART	1	DTC114EA
QR7313		UN1211	COMBINATION PART	1	DTC114EA
QR7314		UN1211	COMBINATION PART	1	DTC114EA
			DIODES		
D7301		MA165	DIODE	1	OR 1SS133
D7302		MA165	DIODE	1	OR 1SS133
D7303		MA165	DIODE	1	OR 1SS133
D7305		MA165	DIODE	1	OR 1SS133
D7306		MA165	DIODE	1	OR 1SS133
D7307		MA165	DIODE	1	OR 1SS133
D7308		MA165	DIODE	1	OR 1SS133
			RESISTORS		
R7302		ERDS2TJ103	CARBON 1/4W 10K	1	
R7303		ERDS2TJ182	CARBON 1/4W 1.8K	1	
R7304		ERDS2TJ103	CARBON 1/4W 10K	1	
R7305		ERDS2TJ223	CARBON 1/4W 22K	1	
R7306		ERDS2TJ471	CARBON 1/4W 470	1	
R7307		ERDS2TJ104	CARBON 1/4W 100K	1	
R7308		ERDS2TJ273	CARBON 1/4W 27K	1	
R7309		ERDS2TJ102	CARBON 1/4W 1K	1	
R7310		ERDS2TJ474	CARBON 1/4W 470K	1	
R7311		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R7312		ERDS2TJ563	CARBON 1/4W 56K	1	
R7313		ERDS2TJ824	CARBON 1/4W 820K	1	
R7314		ERDS2TJ224	CARBON 1/4W 220K	1	
R7315		ERDS2TJ224	CARBON 1/4W 220K	1	
R7316		ERDS2TJ473	CARBON 1/4W 47K	1	
R7317		ERDS2TJ393	CARBON 1/4W 39K	1	
R7318		ERDS2TJ153	CARBON 1/4W 15K	1	
R7319		ERDS2TJ102	CARBON 1/4W 1K	1	
R7320		ERDS2TJ102	CARBON 1/4W 1K	1	
R7321		ERDS2TJ102	CARBON 1/4W 1K	1	
R7322		ERDS2TJ102	CARBON 1/4W 1K	1	
R7323		ERDS2TJ332	CARBON 1/4W 3.3K	1	
R7324		ERDS2TJ392	CARBON 1/4W 3.9K	1	
R7325		ERDS2TJ392	CARBON 1/4W 3.9K	1	
R7326		ERDS2TJ123	CARBON 1/4W 12K	1	
R7327		ERDS2TJ123	CARBON 1/4W 12K	1	
R7329		ERDS2TJ102	CARBON 1/4W 1K	1	
R7330		ERDS2TJ822	CARBON 1/4W 8.2K	1	
			VARIABLE RESISTORS		
VR7301		EVM38GA00B24	VARIABLE 20K	1	
VR7326		EVN38CA00B52	VARIABLE 500	1	
VR7328		EVN38CA00B52	VARIABLE 500	1	
VR7340		EVN38CA00B14	VARIABLE 10K	1	
VR7344		EVN38CA00B14	VARIABLE 10K	1	
				1	
				1	
				1	
			CAPACITORS	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C7302		ECEA1EKN4R7	ELECTROLYTIC 25V 4.7U	1	
C7303		ECQB1H273JH	MYLAR 50V 0.027	1	
C7304		ECEA1EKN4R7	ELECTROLYTIC 25V 4.7U	1	
C7305		ECQB1H473JH	MYLAR 50V 0.027	1	
C7306		ECQB1H102KH	MYLAR 50V 1000P	1	
C7307		ECQB1H822KH	MYLAR 50V 8200P	1	
C7308		ECQB1H102KH	MYLAR 50V 1000P	1	
C7309		ECQB1H152JH	MYLAR 50V 10U	1	
C7310		ECEA16Z10	ELECTROLYTIC 16V 10U	1	
C7311		ECEA50ZR47	ELECTROLYTIC 50V 0.47U	1	
C7312		ECQV1H224JZ	MYLAR 50V 0.22U	1	
C7313		ECQV1H104JZ	MYLAR 50V 0.1U	1	
C7314		ECQV1H224JZ	MYLAR 50V 0.22U	1	
C7315		ECQV1H104JZ	MYLAR 50V 0.1U	1	
C7316		ECQV1H224JZ	MYLAR 50V 0.22U	1	
C7317		ECEA1CK101	ELECTROLYTIC 16V 100U	1	
C7318		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C7319		ECEA1CK470	ELECTROLYTIC 16V 47U	1	
C7320		ECEA1EK4R7	ELECTROLYTIC 25V 4.7U	1	
C7321		ECEA1EK4R7	ELECTROLYTIC 25V 4.7U	1	
C7323		ECQB1H272JH	MYLAR 50V 2700P	1	
C7324		ECQB1H272JH	MYLAR 50V 2700P	1	
C7329		ECEA1CK470	ELECTROLYTIC 16V 47U	1	
C7330		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C7331		ECQV1H474JZ	MYLAR 50V 0.47U	1	
			COILS		
L7301		VLQEL05L102K		1	
L7304		VTQ0014		1	
			TRANSFORMERS		
T7301		EIR7QG001B		1	
			MISCELLANEOUS		
		VJR0162	PACK PIN 8P	1	
		VJR0263	PACK PIN 9P	1	
	■	VEP05089	HEAD AMP PACK C.B.A.		
			INTEGRATED CIRCUITS		
IC501		AN3224K	IC	1	
IC502		AN3311S	IC	1	
IC551		UPC1531HA	IC	1	
			TRANSISTORS		
Q501		2SD601	TRANSISTOR	1	(Q,R,S)
Q502		2SC2404	TRANSISTOR	1	(CD)
Q551		2SB709	TRANSISTOR	1	(Q,R,S)
Q552		2SB643	TRANSISTOR	1	(Q,R,S)
Q553		2SD602	TRANSISTOR	1	(Q,R,S)
Q554		2SD601	TRANSISTOR	1	(Q,R,S)
			COMBINATION PARTS		
			(TRANSISTOR & RESISTOR)		
QR501		UN2211		1	
QR551		UN2112		1	
QR552		2SD1777		1	
QR553		2SD1777		1	

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			RESISTORS		
R501		ERJ6GMYJ561	CHIP 1/16W 560	1	
R502		ERJ6GMYJ222	CHIP 1/16W 2.2K	1	
R503		ERJ6GMYJ102	CHIP 1/16W 1K	1	
R505		ERJ6GMYJ391	CHIP 1/16W 390	1	
R506		ERJ6GMYJ181	CHIP 1/16W 180	1	
R509		ERJ6GMYJ100	CHIP 1/16W 10	1	
R510		ERJ6GMYJ100	CHIP 1/16W 10	1	
R514		ERJ6GMYJ821	CHIP 1/16W 820	1	
R515		ERJ6GMYJ821	CHIP 1/16W 820	1	
R516		ERJ6GMYJ821	CHIP 1/16W 820	1	
R518		ERJ6GMYJ152	CHIP 1/16W 1.5K	1	
R520		ERJ6GMYJ222	CHIP 1/16W 2.2K	1	
R521		ERJ6GMYJ122	CHIP 1/16W 1.2K	1	
R522		ERJ6GMYJ102	CHIP 1/16W 1K	1	
R523		ERJ6GMYJ102	CHIP 1/16W 1K	1	
R524		ERJ6GMYJ331	CHIP 1/16W 330	1	
R529		ERJ6GMYJ222	CHIP 1/16W 2.2K	1	
R551		ERJ6GMYJ103	CHIP 1/16W 10K	1	
R552		ERJ6GMYJ472	CHIP 1/16W 4.7K	1	
R553		ERJ6GMYJ391	CHIP 1/16W 390	1	
R554		ERJ6GMYJ102	CHIP 1/16W 1K	1	
R556		ERJ6GMYJ220	CHIP 1/16W 22	1	
R557		ERJ6GMYJ152	CHIP 1/16W 1.5K	1	
R559		ERJ6GMYJ332	CHIP 1/16W 3.3K	1	
R560		ERJ6GMYJ100	CHIP 1/16W 10	1	
R561		ERJ6GMYJ471	CHIP 1/16W 470	1	
R562		ERJ6GMYJ471	CHIP 1/16W 470	1	
R563		ERJ6GMYJ153	CHIP 1/16W 15K	1	
R564		ERJ6GMYJ393	CHIP 1/16W 39K	1	
R565		ERJ6GMYJ393	CHIP 1/16W 39K	1	
R566		ERJ6GMYJ153	CHIP 1/16W 15K	1	
R567		ERJ6GMYJ103	CHIP 1/16W 10K	1	
R568		ERJ6GMYJ103	CHIP 1/16W 10K	1	
R569		ERJ6GMYJ471	CHIP 1/16W 470	1	
R570		ERJ6GMYJ472	CHIP 1/16W 4.7K	1	
R572		ERJ6GMYJ101	CHIP 1/16W 100	1	
R573		ERJ6GMYJ101	CHIP 1/16W 100	1	
R574		ERJ8GCYJ181	CHIP 180	1	
R575		ERJ6GMYJ271	CHIP 1/16W 270	1	
R576		ERJ6GMYJ100	CHIP 1/16W 10	1	
R577		ERJ8GCYJ181	CHIP 180	1	
			VARIABLE RESISTORS		
VR501		EVNK0AA00B13	1K	1	
VR502		EVNK0AA00B53	5K	1	
			CAPACITORS		
C501		ECUX1H101JCN	CERAMIC 50V 100P	1	
C502		ECUX1H181JC	CERAMIC 50V 180P	1	
C504		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C505		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C506		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C507		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C508		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C509		ECUX1H103ZFN	CERAMIC 50V 1000P	1	
C510		ECUX1H102KBN	CERAMIC 50V 1000P	1	
C511		ECEA0JK220	ELECTROLYTIC 6.3V 22U	1	
C512		VCY0002		1	
C515		ECUX1H150JCN	CERAMIC 50V 15P	1	
C516		ECUX1H150JCN	CERAMIC 50V 15P	1	
C517		ECUX1H150JCN	CERAMIC 50V 15P	1	
C520		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C521		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C522		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C523		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C524		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C525		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C526		ECUX1H122KBN	CERAMIC 50V 1200P	1	
C530		ECUX1E104ZFM	CERAMIC 25V 0.1U	1	
C532		ECEA0JK470	ELECTROLYTIC 6.3V 47U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C533		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C534		ECUX1H151JCN	CERAMIC 50V 150P	1	
C535		ECUX1H180JCN	CERAMIC 50V 18P	1	
C536		ECUX1H681JN	CERAMIC 50V 680P	1	
C537		ECUX1H103ZF	CERAMIC 50V 0.01U	1	
C538		ECUX1H102ZFN	CERAMIC 50V 1000P	1	
C539		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C540		ECUX1H150JCN	CERAMIC 50V 15P	1	
C551		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C552		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C553		ECEA1CK100	CERAMIC 16V 10U	1	
C556		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C557		ECUX1E104ZFN	CERAMIC 25V 0.1U	1	
C558		ECEA0JK330	ELECTROLYTIC 6.3V 33U	1	
C559		ECEA1HK010	ELECTROLYTIC 50V 1U	1	
C560		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C561		ECUX1H151JCN	CERAMIC 50V 150P	1	
C562		ECUX1H151JCN	CERAMIC 50V 150P	1	
C563		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C564		ECEA1HK010I	ELECTROLYTIC 50V 1U	1	
C565		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C566		ECUX1H103ZFN	CERAMIC 50V 0.01U	1	
C567		ECUX1H103ZF	CERAMIC 50V 0.01U	1	
C568		ECUX1E473ZFN	CERAMIC 25V 0.047U	1	
C569		ECUX1H391JN	CERAMIC 50V 390P	1	
			COILS		
L501		VLQ0207K820	82uH	1	
L502		VLQ0207K151	150uH	1	
L503		VLQ0207K101	100uH	1	
L504		VLQ0211K180	18uH	1	
L506		VLQ0207K101	100uH	1	
L508		VLQ0211K180	18uH	1	
L509		VLQ0211K101	100uH	1	
L510		VLQ0211K180	18uH	1	
L511		VLQ0207K101	100uH	1	
L551		VLQ0211K2R2	2.2uH	1	
L552		VLQ0211K2R2	2.2uH	1	
L553		VLQ0207K101	100uH	1	
L554		VLQ0207K101	100uH	1	
			CONNECTORS		
P501		VJP1248T	8P	1	
P551		VJP1248T	8P	1	
			MISCELLANEOUS		
		VSC1721		1	
		VSC1722		1	
		VSC1723		1	
		VJS1838		1	
	■	VEP06347D	OPERATION C.B.A.		INCLUDING THE IR
		VEP06347E			RECEIVER C.B.
					<VJB00F01>
			INTEGRATED CIRCUITS		
IC6201		BA6800AS	IC	1	
IC6202		UPC1373HA	IC	1	
			TRANSISTORS		
Q6201		2SB641		1	
Q6202		2SD636		1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
		COMBINATION PARTS		
		(TRANSISTORS & RESISTOR)		
QR6201	UN1112	COMBINATION PARTS	1	OR DTA124EA
QR6202	UN1112	COMBINATION PARTS	1	OR DTA124EA
QR6203	UN1112	COMBINATION PARTS	1	OR DTA124EA
QR6204	UN1112	COMBINATION PARTS	1	OR DTA124EA
QR6205	UN1112	COMBINATION PARTS	1	OR DTA124EA
QR6206	UN1111	COMBINATION PARTS	1	OR DTA114EA
QR6207	UN1212	COMBINATION PARTS	1	OR DTA124EA
QR6208	2SD1676	COMBINATION PARTS	1	
QR6209	2SD1676	COMBINATION PARTS	1	
		DIODES		
D6201	MA165	DIODE	1	
D6202	MA165	DIODE	1	
D6205	LN31GCPHLMU	LED	1	
D6207	LN28RCPP	LED	1	
D6208	LN28RCPP	LED	1	
D6209	LN28RCPP	LED	1	
D6210	MA167	DIODE	1	
D6211	LN86RCPHL	LED	1	
D6213	MA165	DIODE	1	
D6214	MA165	DIODE	1	
		RESISTORS		
R6201	ERDS2TJ331	CARBON 1/4W 330	1	
R6202	ERDS2TJ331	CARBON 1/4W 330	1	
R6204	ERDS2TJ101	CARBON 1/4W 100	1	
R6205	ERDS2TJ101	CARBON 1/4W 100	1	
R6206	ERDS2TJ682	CARBON 1/4W 6.8K	1	
R6207	ERDS2TJ392	CARBON 1/4W 3.9K	1	
R6208	ERDS2TJ102	CARBON 1/4W 1K	1	
R6209	ERDS2TJ120	CARBON 1/4W 12	1	
R6210	ERDS2TJ154	CARBON 1/4W 150K	1	
R6211	ERDS2TJ473	CARBON 1/4W 47K	1	
R6212	ERDS2TJ334	CARBON 1/4W 330K	1	
R6213	ERDS2TJ124	CARBON 1/4W 120K	1	
R6214	ERDS2TJ473	CARBON 1/4W 47K	1	
R6215	EROS2CKG3602	METAL OXIDE 1/4W 36K	1	
R6216	ERD25TJ335	CARBON 1/4W 3.3M	1	
R6217	ERD25TJ335	CARBON 1/4W 3.3M	1	
R6218	ERDS2TJ473	CARBON 1/4W 47K	1	
R6219	ERDS2TJ473	CARBON 1/4W 47K	1	
R6220	ERDS2TJ102	CARBON 1/4W 1K	1	
R6221	ERDS2TJ473	CARBON 1/4W 47K	1	
R6222	ERDS2TJ473	CARBON 1/4W 47K	1	
R6223	ERDS2TJ473	CARBON 1/4W 47K	1	
R6224	ERQ14AJ560P	FUSE 1/4W 56	1	<!>
R6226	ERDS2TJ102	CARBON 1/4W 1K	1	
R6227	ERDS2TJ102	CARBON 1/4W 1K	1	
R6228	ERDS2TJ102	CARBON 1/4W 1K	1	
R6229	ERDS2TJ331	CARBON 1/4W 330	1	
R6230	ERDS2TJ102	CARBON 1/4W 1K	1	
R6231	ERDS2TJ331	CARBON 1/4W 330	1	
R6232	ERDS2TJ102	CARBON 1/4W 1K	1	
R6233	ERDS2TJ223	CARBON 1/4W 22K	1	
R6239	ERDS2TJ223	CARBON 1/4W 22K	1	
		COMBINATION CIRCUITS		
		(RESISTOR & RESISTOR)		
RX6201	EXBP88104K	R & R 100K	1	
RX6202	EXBP88104K	R & R 100K	1	
RX6203	EXBP88104K	R & R 100K	1	
		VARIABLE RESISTORS		
VR2007	EVUFMAE03B15	100K	1	
VR2008	EVUFMAE03B15	100K	1	
VR3004	EVUJ08E03B24	20K	1	
VR6201	EVN38CA00B14	10K	1	
VR6202	EVN38CA00B14	10K	1	
VR6203	EVJVGAE05B13	1K	1	
VR6204	VRV0042		1	
		CAPACITORS		
C6201	ECEA0JKS330	ELECTROLYTIC 6.3V 33U	1	
C6202	ECQB1H103JH	MYLAR 50V 0.01U	1	
C6203	ECEA1CKS100	ELECTROLYTIC 16V 10U	1	
C6204	ECEA1CKS100	ELECTROLYTIC 16V 10U	1	
C6205	ECEA1EKS4R7	ELECTROLYTIC 25V 4.7U	1	
C6206	ECEA1EKS4R7	ELECTROLYTIC 25V 4.7U	1	
C6207	ECEA1HU470	ELECTROLYTIC 50V 47U	1	
C6208	ECEA1CK470	ELECTROLYTIC 16V 47U	1	
C6209	ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C6210	ECEA1HKR47	ELECTROLYTIC 50V 0.47U	1	
C6211	ECEA1CK100	ELECTROLYTIC 16V 10V	1	
C6212	VCF0006		1	
C6213	ECQB1H183KH	MYLAR 50V 0.018U	1	
C6214	ECKF1H331KB	CERAMIC 50V 330P	1	
C6215	ECKF1H102ZF	CERAMIC 50V 1000P	1	
C6216	ECQB1H223KH	MYLAR 50V 2200P	1	
C6217	ECQB1H223KH	MYLAR 50V 2200P	1	
C6218	ECEA1CK101	ELECTROLYTIC 16 100	1	
		COILS		
L6201	VLQEL05F121K	COIL 120UH	1	NV-H70EG
L6202	VLQEL05F121K	COIL 120UH	1	NV-H70EG
		TRANSFORMER		
T6201	EIR7QE007B		1	
		SWITCHES		
SW6201	EVQQS307K		1	
SW6202	EVQQS307K		1	
SW6203	EVQQS307K		1	
SW6205	ESD14316		1	
SW6206	ESD14314		1	
		CONNECTOR		
P6201	VJP1230T	3P	1	
P6202	VJP1236T	9P	1	
P6203	VJP1230T	3P	1	
P6204	VJP1230T	3P	1	
P6205	VJP1235T	8P	1	
P6206	VJP1235T	8P	1	
P6207	VJP1236T	9P	1	
P6208	VJP1231T	4P	1	
P6210	VJP1230T	3P	1	
		DISPLAY TUBE		
DP6201	VSL0075		1	
		MISCELLANEOUS		
	VGQ0457	LED SPACER	1	
	VJF0350	LEVEL METER HOLDER	1	
	VSC1517	SHIELD CASE	1	(TOP)
	VSC1518	SHIELD CASE	1	(MAIN)
	VSC1519	SHIELD CASE	1	(BOTTOM)
	VSC1520	IR SHIELD PLATE	1	
	VEK2472	LED HOLDER	1	
	KL04	LED HOLDER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP07335A	TEMER C.B.A.		
			INTEGRATED CIRCUITS		
IC7501		MN15881VDL	IC	1	
IC7504		MN1280P	IC	1	
			COMBINATION PARTS		
			(TRANSISTOR & RESISTOR)		
QR7501		UN1211	COMBINATION PARTS	1	OR DTC114EA
QR7502		UN1211	COMBINATION PARTS	1	OR DTC114EA
			DIODES		
D7501		ERA15-01	DIODE	1	
D7502		MA4082	ZENER	1	
D7503		LN28RCPP	LED	1	
D7505		ERA15-01	DIODE	1	
D7506		MA165	DIODE	1	OR 1SS133,1SS119
D7507		MA165	DIODE	1	OR 1SS133,1SS119
D7508		MA165	DIODE	1	OR 1SS133,1SS119
D7509		MA165	DIODE	1	OR 1SS133,1SS119
D7510		MA165	DIODE	1	OR 1SS133,1SS119
D7511		MA165	DIODE	1	OR 1SS133,1SS119
D7512		MA165	DIODE	1	OR 1SS133,1SS119
D7513		MA165	DIODE	1	OR 1SS133,1SS119
			RESISTORS		
R7501		ERDS2TJ122	CARBON 1/4W 1.2K	1	
R7502		ERC14GJ126	SOLID 12M	1	
R7504		ERDS2TJ102	CARBON 1/4W 1K	1	
R7505		ERDS2TJ470	CARBON 1/4W 47	1	
R7506		ERDS2TJ470	CARBON 1/4W 47	1	
R7507		ERDS2TJ104	CARBON 1/4W 100K	1	
R7512		ERDS2TJ473	CARBON 1/4W 47K	1	
R7513		ERC14GJ225	SOLID 2.2M	1	
R7514		ERDS2TJ391	CARBON 1/4W 390	1	
R7517		ERDS2TJ473	CARBON 1/4W 47K	1	
R7526		ERDS2TJ473	CARBON 1/4W 47K	1	
R7527		ERDS2TJ473	CARBON 1/4W 47K	1	
R7540		ERDS2TJ473	CARBON 1/4W 47K	1	
R7541		ERDS2TJ473	CARBON 1/4W 47K	1	
R7542		ERDS2TJ473	CARBON 1/4W 47K	1	
R7543		ERDS2TJ473	CARBON 1/4W 47K	1	
R7586		ERDS2TJ224	CARBON 1/4W 220K	1	
			CAPACITORS		
C7501		ECCF1H080DC	CERAMIC 50V 8P	1	
C7502		ECRHA030E41	TRIMMER 50V 30P	1	
C7503		ECEA1HKSR22	ELECTROLYTIC 50V 0.22U	1	
C7504		ECCF1H220JC	CERAMIC 50V 22P	1	
C7505		ECCF1H330JC	CERAMIC 50V 33P	1	
C7506		ECEA1AKS470	ELECTROLYTIC 10V 47U	1	
C7507		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C7508		ECQV1H104JZ	MYLAR 50V 0.1U	1	
C7510		ECEA1HKS100	ELECTROLYTIC 50V 10U	1	
			DISPLAY TUBE		
DP7501		VSL0087		1	
			SWITCHES		
SW7501		EVQQS307K	SWITCH	1	
SW7502		EVQQS307K	SWITCH	1	
SW7503		EVQQS307K	SWITCH	1	
SW7504		EVQQS307K	SWITCH	1	
SW7505		EVQQS307K	SWITCH	1	
SW7506		EVQQS307K	SWITCH	1	
SW7507		EVQQS307K	SWITCH	1	
SW7508		EVQQS307K	SWITCH	1	
SW7509		EVQQS307K	SWITCH	1	
SW7510		EVQQS307K	SWITCH	1	
SW7511		EVQQS307K	SWITCH	1	
SW7512		EVQQS307K	SWITCH	1	
SW7513		EVQQS307K	SWITCH	1	
SW7514		EVQQS307K	SWITCH	1	
SW7515		EVQQS307K	SWITCH	1	
SW7516		EVQQS307K	SWITCH	1	
SW7517		EVQQS307K	SWITCH	1	
SW7518		EVQQS307K	SWITCH	1	
SW7519		EVQQS307K	SWITCH	1	
SW7521		ESD14314	SWITCH	1	
SW7522		EVQQS307K	SWITCH	1	
SW7523		EVQQS307K	SWITCH	1	
SW7524		EVQQS307K	SWITCH	1	
SW7525		EVQQS307K	SWITCH	1	
SW7526		EVQQS307K	SWITCH	1	
SW7527		EVQQS307K	SWITCH	1	
SW7528		EVQQS307K	SWITCH	1	
SW7529		EVQQS307K	SWITCH	1	
SW7530		EVQQS307K	SWITCH	1	
SW7531		EVQQS307K	SWITCH	1	
SW7532		EVQQS307K	SWITCH	1	
SW7533		EVQQS307K	SWITCH	1	
SW7534		EVQQS307K	SWITCH	1	
SW7535		ESD14314	SWITCH	1	
SW7536		VSS0149	SWITCH	1	
			CONNECTORS		
P7501		VJS1837	11P	1	
P7502		VJS1837	11P	1	
P7503		VJP1249T	9P	1	
P7504		VJP1246T	6P	1	
P7508		VJS1690	20P	1	
P7509		VJS1690	20P	1	
			CRYSTAL OSCILLATORS		
X7501		VSX0140		1	
X7502		VSX0094		1	
	■	VEP07336A	TIMER SUB C.B.A.		
			INTEGRATED CIRCUITS		
IC7502		MN1220		1	
IC7503		MN1514VDM		1	
IC7505		AN6913		1	
IC7506		MN4066B		1	OR UPD4066BC
			TRANSISTORS		
Q7501		2SD637		1	
Q7502		2SD637		1	
			COMBINATION PARTS		
			(TRANSISTOR & RESISTOR)		
QR7503		UN1112	COMBINATION PARTS	1	OR DTA124EA
QR7504		UN1211	COMBINATION PARTS	1	OR DTC114EA
QR7505		UN1213	COMBINATION PARTS	1	OR DTC144EA

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR7506		UN1213	COMBINATION PARTS	1	OR DTC144EA
			DIODES		
D7514		MA165	DIODE	1	
D7517		MA165	DIODE	1	
			RESISTORS		
R7503		ERDS2TJ105	CARBON 1/4W 1M	1	
R7508		ERDS2TJ470	CARBON 1/4W 47	1	
R7509		ERDS2TJ102	CARBON 1/4W 1K	1	
R7510		ERDS2TJ223	CARBON 1/4W 22K	1	
R7530		ERDS2TJ123	CARBON 1/4W 12K	1	
R7531		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R7532		ERDS2TJ682	CARBON 1/4W 6.8K	1	
R7533		ERDS2TJ473	CARBON 1/4W 47K	1	
R7534		ERDS2TJ473	CARBON 1/4W 47K	1	
R7535		ERDS2TJ563	CARBON 1/4W 56K	1	
R7536		ERDS2TJ333	CARBON 1/4W 33K	1	
R7537		ERDS2TJ102	CARBON 1/4W 1K	1	
			CAPACITORS		
C7520		ECEA1AKS220	ELECTROLYTIC 10V 22U	1	
C7521		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C7522		ECEA1HKSR22	ELECTROLYTIC 50V 0.22U	1	
C7523		ECCF1H470JC	CERAMIC 50V 47P	1	
C7524		ECCF1H470JC	CERAMIC 50V 47P	1	
C7525		ECEA1CKS100	ELECTROLYTIC 16V 10U	1	
			COIL		
L7501		VLQEL05F1R0K	COIL 1UH	1	
			CONNECTORS		
P7505		VJP1248T	8P	1	
P7510		VJS1690	20P	1	
P7511		VJS1690	20P	1	
			CRYSTAL OSCILLATOR		
X7503		VSX0082		1	
	■	VEP06365A	VPS C.B.A.		
			INTEGRATED CIRCUITS		
IC7801		SAA5235	IC	1	
IC7802		SAF1135P	IC	1	
			TRANSISTORS		
Q7801		2SD636		1	
Q7802		2SB641		1	
Q7803		2SB641		1	
			RESISTORS		
R7803		ERDS2TJ103	CARBON 1/4W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R7804		ERDS2TJ103	CARBON 1/4W 10K	1	
R7807		ERDS2TJ101	CARBON 1/4W 100	1	
R7808		ERDS2TJ683	CARBON 1/4W 68K	1	
R7809		ERDS2TJ223	CARBON 1/4W 22K	1	
R7810		ERDS2TJ223	CARBON 1/4W 22K	1	
R7811		ERDS2TJ332	CARBON 1/4W 3.3K	1	
R7812		ERDS2TJ152	CARBON 1/4W 1.4K	1	
R7813		ERDS2TJ102	CARBON 1/4W 1K	1	
R7814		ERDS2TJ102	CARBON 1/4W 1K	1	
R7815		ERDS2TJ102	CARBON 1/4W 1K	1	
R7816		ERDS2TJ472	CARBON 1/4W 4.7K	1	
			CAPACITORS		
C7801		ECEA1CK220	ELECTROLYTIC 16V 22U	1	
C7802		ECQB1H223JH	MYLAR 50V 0.022U	1	
C7803		ECQV1H683JZ	MYLAR 50V 0.068U	1	
C7804		ECEA1HKNR47	ELECTROLYTIC 50V 0.47U	1	
C7805		ECCF1H150JC	CERAMIC 50V 15P	1	
C7806		ECQB1H102JH	MYLAR 50V 1000P	1	
C7807		ECKF1H471KB	CERAMIC 50V 470P	1	
C7808		ECQB1H223JH	MYLAR 50V 0.022U	1	
C7809		ECKF1H271KB	CERAMIC 50V 270P	1	
C7810		ECCF1H101JC	CERAMIC 50V 100P	1	
C7811		ECCF1H180JC	CERAMIC 50V 18P	1	
C7812		ECCF1H820JC	CERAMIC 50V 82P	1	
C7814		ECKF1H102KB	CERAMIC 50V 1000P	1	
C7815		ECQB1H223JH	MYLAR 50V 0.022U	1	
C7816		ECEA1EK4R7	ELECTROLYTIC 25V 4.7U	1	
C7818		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C7819		ECCF1H101JC	CERAMIC 50V 100P	1	
C7820		ECCFQH101JC	CERAMIC 50V 100P	1	
			COILS		
L7801		VLQ0193	COIL	1	
L7802		VLQEL05F101K	COIL 100UH	1	
L7803		VLQEL05F101K	COIL 100UH	1	
			CONNECTOR		
P7801		VJP1234T	7P	1	
			CRYSTAL OSCILLATOR		
X7801		VSX0173		1	
	■	ENC87784	RF CONVERTER & ANTENNA		NV-H70EV<!>
	■	ENC87786	BOOSTER UNIT		NV-H70EG<!>
			INTEGRATED CIRCUIT		
IC1		LA7051	IC	1	
			TRANSISTORS		
Q1		2SC3130	TRANSISTOR	1	
Q2		2SC2570A	TRANSISTOR	1	OR 2SC3355
Q3		2SC2570A	TRANSISTOR	1	OR 2SC3355
			DIODES		
D1		MA1075	ZENER	1	
D2		1SS86		1	OR 1SS174,1SS87

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D3		1SS86		1	OR 1SS174,1SS87
D4		MA161		1	OR MA166,1SS135
D5		MA161		1	OR MA166,1SS135
			NOTE:		
			THE OTHER PARTS FOR		
			RF CONVERTER & ANTENNA-		
			BOOSTAR UNIT ARE NOT		
			AVAILABLE AS SPARE PARTS.		
	■	VEP01248A	POWER TRANSFORMER C.B.A.		NV-H70EG<!>
		VEP01261A			NV-H70EV<!>
			TRANSISTORS		
Q1101		2SA684	TRANSISTOR	1	
Q4101		2SD639	TRANSISTOR	1	(R)
			DIODES		
D1101		10E1	DIODE	1	
D1102		10E1	DIODE	1	
D1103		10E1	DIODE	1	
D1104		10E1	DIODE	1	
D1105		10E1	DIODE	1	
D1106		10E1	DIODE	1	
D1107		10E1	DIODE	1	
D1108		10E1	DIODE	1	
D1109		10E1	DIODE	1	
D1110		10E1	DIODE	1	
D1111		10E1	DIODE	1	
D1112		10E1	DIODE	1	
D1113		ERA15-02	DIODE	1	
D1114		ERA15-02	DIODE	1	
D1115		MA4130H	ZENER	1	
D1116		MA4300L	ZENER	1	
D1117		MA4140M	ZENER	1	
D1118		MA165	DIODE	1	
D1119		MA165	DIODE	1	
			RESISTORS		
R1101		ERDS2TJ562	CARBON 1/4W 5.6K	1	
R1102		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R1103		ERDS2TJ103	CARBON 1/4W 10K	1	
R1104		ERDS2TJ682	CARBON 1/4W 6.8K	1	
R1105		ERG12ANJ182	METAL OXIDE 1/2W 1800	1	
R1106		ERDS2TJ472	CARBON 1/4W 4.7K	1	
R1107		ERD2FCJ4R7	CARBON 2W 4.7	1	
			CAPACITORS		
C1101		ECEA1VGE332	ELECTROLYTIC 35V 3300U	1	
C1102		ECEA1CGE332	ELECTROLYTIC 16V 3300U	1	
C1103		ECEA1EGE332	ELECTROLYTIC 25V 3300U	1	
C1104		ECEA1JGE101	ELECTROLYTIC 63V 100U	1	
C1105		ECEA2AGE470	ELECTROLYTIC 100V 47U	1	
C1106		ECEA1VGE101	ELECTROLYTIC 35V 100U	1	
C1107		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C1108		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C1109		ECEA1CK101	ELECTROLYTIC 16V 100U	1	
C1110		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C1111		ECKF1H103ZF	CERAMIC 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C1112		ECKF1H103ZF	CERAMIC 50V 0.01U	1	
C1113		ECQV1H564JZ	MYLAR 50V 0.56U	1	
C4101		ECQV1H223JZ	MYLAR 50V 0.022U	1	
C4102		ECEA1CK100	ELECTROLYTIC 16V 10U	1	
C4103		VCYD1C472MR1	SEMICONPUCTOR 16V 4700U	1	
			COMBINATION PARTS		
			(CAPACITOR & RESISTOR)		
CR4101		EXED103Z153C	C & R 0.01 15K	1	
			COILS		
L1101		VTQ0046		1	NV-H70EG
L4101		VLQEL05F101K	100UH	1	
			TRANSFORMER		
T4101		EIQ7QF012Q		1	
			CONNECTORS		
P1101		VJP1231T	4P	1	
P1102		VJP1252T	12P	1	
P1103		VJP1141	2P	1	
P1106		VJP1142	3P	1	
P4101		VJP1141	2P	1	
P4102		VJP1230T	3P	1	
	■	VJB00H26	Tr.(2) C.B.		
			TRANSISTOR		
Q1504		2SD1275	TRANSISTOR	1	
	■	VJB01239	REGULATOR POWER C.B.		
			INTEGRATED CIRCUIT		
IC1101		STK5335	IC	1	
	■	VJB01238	POWER TR. C.B.		
			TRANSISTOR		
Q1502		2SD1275	TRANSISTOR	1	
			CONNECTOR		
P1507		VJP1230T		1	
	■	VJB03352	HQ SWITCH C.B.		

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			DIODES		
D3603		MA165		1	
D3604		MA165		1	
			SWITCH		
S3601		VSS011		1	
			CONNECTOR		
P3601		VJP1243T	3P	1	
			MISCELLANEOUS		
		VGU3130	HQ SW KNOB	1	
	■	VJB04153	MIC AMB C.B.A.		
			INTEGRATED CIRCUIT		
IC4201		BA3308	IC	1	
			RESISTORS		
R4201		ERDS2TJ221	CARBON 1/4W 220	1	
R4202		ERDS2TJ183	CARBON 1/4W 18K	1	
R4204		ERDS2TJ564	CARBON 1/4W 560K	1	
R4205		ERDS2TJ102	CARBON 1/4W 1K	1	
R4206		ERDS2TJ221	CARBON 1/4W 220	1	
R4207		ERDS2TJ183	CARBON 1/4W 18K	1	
R4208		ERDS2TJ392	CARBON 1/4W 3.9K	1	
R4209		ERDS2TJ472	CARBON 1/4W 4.7K	1	
			CAPACITORS		
C4201		ECEA1AK101	ELECTROLYTIC 10V 100U	1	
C4203		ECEA1EK3R3	ELECTROLYTIC 25V 3.3U	1	
C4204		ECEA1CU221	ELECTROLYTIC 16V 220U	1	
C4205		ECEA1HK3R3	ELECTROLYTIC 50V 3.3U	1	
C4206		ECEA1AK101	ELECTROLYTIC 10V 100U	1	
	■	VJB00F01	IR RECEIVER C.B.		
			DIODE		
D6204		PN313		1	OR PH302
			CONNECTOR		
P6209		VJP1400		1	
	■	VJB00G13	SUPPLY PHOTO Tr. C.B.		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			TRANSISTOR		
Q1502		PN150NV			
			CAPACITOR		
C1502		ECKF1H102KB	CERAMIC 50V 1000P	1	
			MISCELLANEOUS		
		VMD0645	PHOTO HOLDER	1	
	■	VJB00G23	LED C.B.		
			DIODE		
D1501		GL450	PHOTO DIODE	1	OR LN59
			MISCELLANDOUS		
		VMD0644	LED HOLDER	1	
	■	VJB00G10	MECHANISM CONNECTION C.B.		
			RESESTOR		
R1510		ERDS2TJ561	560	1	
			CAPACITOR		
C1510		ECEA50Z3R3	ELECTROLYTIC 50V 3.3	1	
			CONNECTORS		
P1511		VJP1245R	5P	1	
P1514		VJP1229T	2P	1	
P1515		VJP1229R	2P	1	
P1516		VJP1230T	3P	1	
	■	VJB00E36	CYLINDER HEATER C.B.		
			TRANSISTOR		
Q1501		2SD1275			
	■	VJB00G09	FRONT LOADING C.B.		
			TRANSISTOR		
Q1503		PN150NV		1	

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Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			CAPACITOR		
C1503		ECKF1H102KB	CERAMIC 50V 1000P	1	
			MISCELLANEOUS		
		VMD0645	PHOTO BOLDER	1	
	■	VJB00G12	REEL SENSOR C.B.		
			PHOTO INTERRUPTER		
IC1501		ON2170		1	
			CONNECTOR		
P1518		VJP1229T	2P	1	
	■	VJB00D65	HEAD PHONE JACK C.B.		<R>
		VJJ0096	H.P JACK	1	
	■	VJB00H03	MIC JACK C.B.		
		VJJ0132	MIC JACK	1	
			CAPACITOR		
C1		ECQB1H103JH	MYLAR 50V 0.01U	1	
	■	VEP22044A	IR REMOTE CONTROLLER C.B.A		
			INTEGRATED CIRCUIT		
IC1		MN6013C		1	
			TRANSISTOR		
Q1		UN1231		1	
			DIODES		
D1		LN66S	LED	1	OR SE303AY
			RESISTORS		
R1		ERDS2TJ1R0	1	1	
			CAPACITORS		
C1		ECKF1H471KB	CERAMIC 50V 470P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2		ECKF1H121KB	CERAMIC 50V 120P	1	
C3		ECEA0JK101	ELECTROLYTIC 6.3V 100	1	OR ECEA0JKS101
			CRYSTAL OSCILLATOR		
X1		CSB420PB1		1	OR EF0A420K05F1
			MISCELLANEOUS		
		VJR0099	ELECTRODE (+)	1	
		VJR0100	ELECTRODE (-)	1	

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